

141988



Reviewer: ~~Joan E. Dan~~  
Joe Hudak

Report: SIP  
EQ: NFRAP

Date: 03/24/94

ROY F. WESTON, INC.

**D AND J TRUCKING  
NEWARK, NEW JERSEY**

CERCLIS I.D. No.: NJD0980528962

Work Assignment No.: 016-2JZZ

Work Order No.: 04200-016-081-0097

Submitted by:

ROY F. WESTON, INC.





Document Control No.: 4200-16-ADNW

**FINAL  
SITE INSPECTION PRIORITIZATION REPORT  
D AND J TRUCKING  
NEWARK, NEW JERSEY**

CERCLIS I.D. No.: NJD0980528962

Work Assignment No.: 016-2JZZ

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Submitted by:

**ROY F. WESTON, INC.**

Raritan Plaza I

4th Floor

Raritan Center

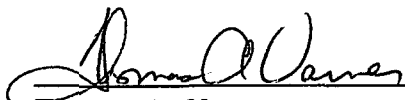
Edison, New Jersey 08837

WESTON/ARCS - Reviewed and Approved



Keith J. Bobrowski  
Task Manager

2/17/94  
Date



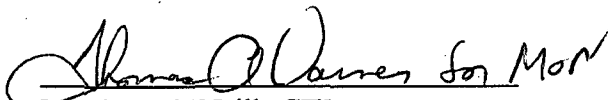
Thomas A. Varner  
Site Assessment Manager

2/18/94  
Date



Dennis J. Foerter, CHMM  
Quality Assurance Representative

2/18/94  
Date



Martin J. O'Neill, CIH  
Project Manager

2/28/94  
Date





Document Control No.: 4200-16-ADNW

**FINAL  
SITE INSPECTION PRIORITIZATION REPORT  
D AND J TRUCKING  
NEWARK, NEW JERSEY**

Volume 1 of 2

**CERCLIS I.D. No.: NJD0980528962**

28 February 1994

W.O. No.: 04200-016-081-0097

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

Prepared by:

**ROY F. WESTON, INC.**  
Raritan Plaza I  
4th Floor  
Raritan Center  
Edison, New Jersey 08837



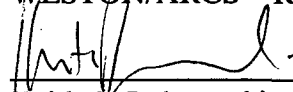
**FINAL DRAFT  
SITE INSPECTION PRIORITIZATION REPORT  
D AND J TRUCKING  
NEWARK, NEW JERSEY**

CERCLIS I.D. No.: NJD0980528962  
Work Assignment No.: 016-2JZZ  
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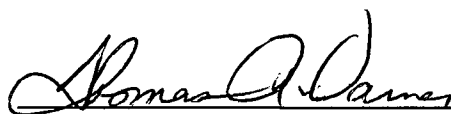
Submitted by:

**ROY F. WESTON, INC.**  
Raritan Plaza I  
4th Floor  
Raritan Center  
Edison, New Jersey 08837

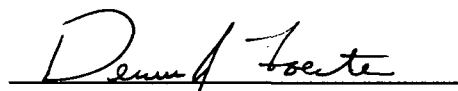
WESTON/ARCS - Reviewed and Approved

  
\_\_\_\_\_  
Keith J. Bobrowski  
Task Manager


17 February 94  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Thomas A. Varner  
Site Assessment Manager

18 February 1994  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Dennis J. Foerter, CHMM  
Quality Assurance Representative

18 February 1994  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Martin J. O'Neill, CIH  
Project Manager

28 February 1994  
\_\_\_\_\_  
Date

EPA Region II Reviewed and Approved

\_\_\_\_\_  
Juan Davila  
Work Assignment Manager (WAM)

\_\_\_\_\_  
Date



## GENERAL DESCRIPTION AND SITE HISTORY

The D and J Trucking site (CERCLIS ID No. NJD0980528962) (hereinafter, D&J) is located in the heavily industrialized "iron bound" section of Newark, Essex County, New Jersey (Ref. Nos. 15; 18). The currently active 3.5-acre site is located at 310-336 Avenue P and is commonly confused with several other sites in the area known by similar names. The abandoned Newark Police Academy lot borders the site to the north and is separated from the site by a row of ten foot high berms and a chain-link fence. The site is bounded to the south by a tidally influenced drainage ditch, a railroad right-of-way, and a chain-link fence, to the east by an unknown chemical factory, and to the west by Avenue P. Linde Chemical formerly occupied the neighboring property to the south (Ref. No. 6). Available background information indicates that the site has been used for the disposal of various industrial waste streams during its history.

The site was owned/occupied by American Cyanamid Co. from 1916 to 1943. American Cyanamid sold the property to Martin Laboratories, Inc. in 1943. Martin Laboratories occupied the site until 1950. Union Carbide Corp. occupied the site from an unknown date until Sun Chemical Co. purchased the site in 1960. Background information indicates that a dye/chemical manufacturing facility may have stored wastes, product, and/or raw materials in underground storage tanks on site during an unknown time period. No recent evidence exists confirming the presence or removal of these purported tanks or their contents. In 1974, the site was purchased from Sun Chemical Corp. by D and J Trucking (Ref. No. 7). The site was purchased by its current owner, the Newark Housing Authority (NHA), in 1978. To date, NHA has primarily leased the site to auto salvage companies. The site is currently leased to Advanced Enterprises Recycling, Inc. (AERI). AFA Pallet Co., a division of AERI, is presently using the site for the storage of wood mulch (Ref. No. 6).

D & J operated a waste disposal company which had long term contracts with several industries in the area to dispose of their industrial wastes. Waste streams handled by D&J reportedly consisted mainly of those associated with paint manufacturing. D&J claims to have used the site as a waste transfer station; however, according to the New Jersey Department of Environmental Protection and Energy (NJDEPE), D&J allegedly used the property as an illegal industrial landfill (Ref. No. 19, pp. 303-315, 368-371, 477). On 15 December 1977 Newark police witnessed and subsequently arrested two D&J employees for illegally dumping liquid chemical wastes from several 55-gallon drums into what was described as a pit on site. The police also observed tire tracks leading to the adjacent drainage ditch and noted visible contamination from apparent dumping in the water body (Ref. Nos. 13, 14). Samples from the pit obtained by Passaic Valley Sewerage Commissioners were analyzed for unknown parameters. The waste was found to be of a flammable nature; however, it is believed that the chemical composition was never determined (Ref. Nos. 2; 19, p. 356). As a result of D&J's activities, their license

to handle waste was revoked (Ref. No. 19, p. 362). Due to the nature of disposal practices used by D&J, discrete waste source areas and quantities are not clearly defined; however, according to available surface soil analysis data, much of the 3.5-acre site is contaminated.

Fourteen environmental samples were collected from on-site soils, surface water, and sediment by the United States Environmental Protection Agency (U.S. EPA) Region 2 Field Investigation Team (NUS Corporation) as part of a June 1990 Site Inspection. Samples were analyzed for Target Compound List organic and inorganic analysis through the U.S. EPA Contract Laboratory Program (CLP). Refer to Table 1 for a list of the highest concentrations detected. Surface water and sediment samples were collected from the adjacent tidally-influenced drainage ditch. Three surface water samples and two sediment samples were collected at two separate locations in the adjacent drainage ditch. These samples contained several volatile organic compounds, semivolatile organic compounds, herbicides/pesticides, and metals. Due to the locations of the samples, attribution of surface water and sediment contamination to the site remains questionable. Despite this fact, contaminants detected in surface water and sediment samples are consistent with those found in on-site soil samples. Nine surface soil samples were collected from areas along the drainage ditch, the berm, and near Avenue P. Volatile organic compounds, polynuclear aromatic hydrocarbons, numerous herbicides and pesticides, polychlorinated biphenyls, and metals were detected in on-site soil and sediment samples. Soil samples referred to as "background" indicated the highest concentrations of some contaminants; other samples proved to be more representative of background conditions (Ref. No. 19, pp. 8-16, 51). This would appear to be an error in the selection of background locations.

Approximately two-thirds of the site is currently covered by piles of mulch approximately twenty feet high and the remainder is covered with approximately 1 to 3 feet of mulch. During an off-site reconnaissance performed by Roy F. Weston, Inc., (WESTON®) on 23 November 1993, trucks were observed to be dumping mulch on the D&J site, which appeared to be surrounded by a maintained fence (Ref.No.6).

### EVALUATION OF EXISTING INFORMATION

Existing information, primarily from the 1990 NUS Site Inspection report and supporting documentation file, were used to perform an evaluation of the site. Updated and additional information and data were collected to evaluate the site to determine whether further CERCLA remedial action is warranted. Specifically, the groundwater migration pathway was updated to include wells within a four-mile radius of the site, and the surface water migration pathway was updated to include receptors within 15 miles downstream of the site. In addition, the air migration pathway was evaluated with respect to sensitive environments, including threatened and endangered species, and 1990 population data.



## **HAZARD ASSESSMENT**

**Groundwater Migration Pathway** - There is no observed release of contaminants to groundwater. There have been no subsurface investigations to date at the site; however, considering past on-site disposal practices, a release to groundwater is suspected.

The aquifer of concern is the Passaic (formerly the Brunswick) Formation. The Passaic Formation varies in thickness and in some areas is over 6,000 meters thick. It consists of red argillaceous shale, fine-grained red sandstone, siltstone, and black, gray, or green shale. The depth to the aquifer of concern under the site is approximately 50 feet. Groundwater exists in the Passaic Formation in a network of interconnected openings formed along near-vertical and bedding-plane joints and fractures. In lowland areas of Newark, an 8- to 14- foot thick confining layer of silty clay exists between the surficial and bedrock aquifers; however, this layer is not present beneath the D&J site. Groundwater near the site is tidally influenced and flows in an easterly direction. The aquifer of concern is hydraulically connected with surface water. The depth to the surficial aquifer is approximately 10 feet. The lowest point of waste disposal is unknown, but it is known to be below grade (Ref. No. 19, pp. 404-463). No potable wells are known to exist within four miles of the site (Ref. No. 5). A wellhead protection area has not been established in New Jersey (Ref. No. 1).

**Surface Water Migration Pathway** - There is a suspected release of contaminants to surface water. The contaminants listed in Table 1 were detected in two sediment samples obtained from a ditch located immediately adjacent to the site. No background sample could be obtained in the tidally-influenced ditch; however, the contaminants detected in surface water and sediment samples are similar to those found in on-site soil samples (Ref. No. 19, pp. 8-16). The probable point of entry (PPE) of contaminants to surface water is the adjacent drainage ditch. Contaminants are believed to have been disposed of directly in the drainage ditch (Ref. Nos. 13, 14). This ditch is part of a larger ditch system which empties into the Plum Point Creek approximately 0.25 mile downstream. Plum Point Creek flows into Newark Bay approximately 0.5 mile downstream of the site. Newark Bay is classified as an SE3 surface water and is therefore designated for secondary contact recreation, the maintenance and migration of fish populations, the migration of diadromous fish, and the maintenance of wildlife (Ref. No. 19, pp. 401-402; 16). The surface water pathway diverges at this point, approximately eight miles downstream of the site, flowing into Raritan Bay via the Arthur Kill and to Hudson Bay via the Kill Van Kull. Smoking Point, along the Arthur Kill, and a point immediately seaward of the Verrazano-Narrows bridge mark the limits of the 15-mile target distance limit (Ref. No. 16). The entire surface water pathway is tidally influenced. The Newark Bay and associated waterways are documented fisheries (Ref. Nos. 11, 12). Approximately 7.7 miles of wetland frontage is present along the Arthur Kill. The least tern (*Sterna antillarum*), a State-listed

endangered species, is known to inhabit waterways within 15 miles downstream of the site (Ref. No. 4). There are no known potable surface water intakes within the 15-mile surface water pathway (Ref. No. 10). The site is located within the 100-year floodplain (Ref. No. 8)

**Soil Exposure Pathway** - Surface soil contamination at the site is documented by analytical evidence. Table 1 summarizes the highest concentrations of contaminants detected in on-site soils. Soil samples believed to be representative of background conditions were found to possess the highest concentrations of several compounds; however, other samples were found to be more indicative of background conditions. This is believed to be an error in the selection of background locations (Ref. No. 19, pp. 8-16). Due to the nature of the illegal disposal practice, little information is available detailing constituents and quantities of waste disposed of on the D&J site. Analytical evidence suggests that contamination exists throughout most of the 3.5-acre site with the higher concentrations present along the northern border of the site. The presence of volatile organic compounds, lead, and zinc detected in soil samples are consistent with contaminants associated with paint wastes reportedly handled at the site. Most of the site is currently covered with 1 to 3 feet of mulch with mulch piles as high as 20 feet in the rear two-thirds of the lot. Although the site appears to be fenced, the structural integrity of the fence in the rear portions of the site are unknown. The gate at the front of the site is open thus facilitating access to the site. The site is occasionally used by one or two AFA Pallet Co. personnel (Ref. No. 17). No residences, schools, or day care facilities are known to exist within 200 feet of known contamination (Ref. No. 6).

**Air Migration Pathway** - There is no observed or suspected release of contaminants to the air. Considering the volatile nature of the contaminants detected in surface soils, a likelihood for a release to air exists. Approximately 712 acres of wetlands (0-0.25 mile: 2 acres; 0.25-0.5 mile: 0 acres; 0.5-1 mile: 0 acres; 1-2 miles: 80 acres; 2-3 miles: 400 acres; 3-4 miles: 230 acres) are known to exist within four miles of the site. Four State-listed endangered or threatened species habitats including the sedge wren (Cistothorus platensis), the savannah sparrow (Passerculus sandwichensis), the pied-billed grebe (Podilymbus podiceps), and the least tern (Sterna antillarum) are known to exist within four miles of the site. The american burying beetle (Nicrophorus americanus) a Federally-listed endangered species, is known to inhabit areas within four miles of the site (Ref. No. 4). There are 402,752 (0 - 0.25 mile: 2; 0.25 - 0.5 mile: 10; 0.5 - 1 mile: 6,370; 1 - 2 miles: 39,390; 2 - 3 miles: 153,170; 3 - 4 miles: 203,810) people living within four miles of the site (Ref. No. 3). No residences, schools, or day care facilities are known to exist within 200 feet of known areas of contamination (Ref. No. 6).





Document Control No.: 4200-16-ADNW  
28 February 1994

### SUMMARY

The existing information and data and the additional information collected were sufficient to evaluate this site. This evaluation indicates that this site poses minimal threat to human health and the environment. Release of contaminants to groundwater and surface water are suspected; however, there are no potable wells within four miles of the site or drinking water intakes within 15 miles downstream of the site. There is no observed or suspected release of contaminants to the air. No residences, schools, or daycare facilities are located within 200 feet of the site.

## REFERENCES

1. Phone Conversation Record: Conversation between Terry Romogna, New Jersey Department of Environmental Protection and Energy (NJDEPE), and Keith Bobrowski, Roy F. Weston, Inc., (WESTON®), Subject: Current Status of New Jersey Wellhead Protection Program, 29 November 1993.
2. Phone Conversation Record: Conversation between Dave Paddock, NJDEPE Case Management, and Keith Bobrowski, WESTON, Subject: Site Background and Updated Information, 29 November 1993.
3. Letter from Bob Frost, Frost Associates, to Jan Holderness, WESTON, Subject: Population Data, 29 November 1993.
4. Letter from Elena Williams, NJDEPE-Natural Heritage Program, to Richard Settino, WESTON, Subject: Sensitive Environments, 8 December 1993.
5. Water Withdrawal Points Database, NJDEPE Water Supply Element, Bureau of Water Allocation, 22 December 1993.
6. Field Notebook, D&J Trucking Ave. P site, Work Order No. 04200-016-081-0097, Off-site Reconnaissance conducted by WESTON, 23 November 1993.
7. NJDEPE Inspection Report, D&J Trucking site, 18 February 1992.
8. Phone Conversation Record: Conversation between Alan Shev, Newark Engineer's Office, and Keith Bobrowski, WESTON, Subject: Floodplain Information, 6 January 1994.
9. Project Note from Keith Bobrowski, WESTON, to D&J Trucking file, Subject: Biases' Restaurant, 7 January 1994.
10. Letter from John Fields, NJDEPE-Water Supply Element, to Thomas Varner, WESTON, Subject: Surface Water Intakes, 15 September 1993.
11. Phone Conversation Record: Conversation between Bob Soldwedel, NJDEPE-Bureau of Freshwater Fisheries, and Thomas Varner, WESTON, Subject: Fish consumption in Newark Bay Complex, 24 May 1993.



**REFERENCES (CONTINUED)**

12. Phone Conversation Record: Conversation between Bob Papson NJDEPE-Bureau of Freshwater Fisheries, and John Fix, WESTON, Subject: Fish Consumption in Newark Bay Complex, 20 December 1993.
13. NJDEPE Memorandum from Bruce Schwartz, to Joseph Coronato, (DAG, Division of Criminal and Justice) and Steve Tasher (DAG, Environmental Section), Subject: Notification of Illegal Dumping Activity. 16 December 1977.
14. NJDEPE Memorandum from Bruce Schwartz to Acting Director Zelikson, both of NJDEPE, Subject: Notification of Illegal Dumping Activity, 27 December 1977.
15. Four-Mile Vicinity Map, compiled from U.S. Department of the Interior, U.S. Geological Survey Topographic Maps, 7.5 minute series: "Orange, NJ" Quadrangle, 1969, photorevised 1981; "Weehawken, NJ" Quadrangle, 1969, photorevised 1981; "Elizabeth, NJ" Quadrangle, 1969, photorevised 1981; and "Jersey City, NJ" Quadrangle, 1969, photorevised 1981.
16. Fifteen-Mile Surface Water Pathway Map, compiled from U.S. Department of Interior, Fish and Wildlife Service, National Wetlands Inventory Maps: "Orange, NJ" Quadrangle, 1977, "Weehawken, NJ" Quadrangle, 1977, "Elizabeth, NJ" Quadrangle, 1977, "The Narrows, NJ" Quadrangle, 1977, and "Arthur Kill, NJ" Quadrangle 1977.
17. Phone Conversation Record: Conversation between Frank Peterpaul, AFA Pallet Co., and Keith Bobrowski, WESTON, Subject: On-Site Worker Population, 4 February 1994.
18. U.S. EPA Superfund Program, CERCLIS, List-8: Site/Event Listing; D&J Trucking. 26 November 1993.
19. Site Inspection Report for the D&J Trucking site, NUS Corp. Region 2 FIT, 26 September 1990.

**REFERENCE NO. 1**

**PHONE CONVERSATION RECORD**

Conversation with:

Name Terry Ramogna

Company NJDEPE

Address \_\_\_\_\_

Phone (609) 633-1179

Subject NJ Wellhead Protection Program

Date 29, Nov, 93

Time 1125 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. \_\_\_\_\_

Notes:

As of this date NJDEPE has not established a well head  
protection program. The only regulation concerning well head  
protection is one which requires owners to control activities  
within 5 feet of the well head.

☐ File \_\_\_\_\_

☐ Tickle File \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

☐ Follow-Up By: \_\_\_\_\_

☐ Copy/Route To: \_\_\_\_\_

Follow-Up-Action: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Originator's Initials KB



**REFERENCE NO. 2**

**PHONE CONVERSATION RECORD**

**Conversation with:**

Name Dave Paddock  
Company NJDEPE - Case Management  
Address 401 E. State St.  
Trenton, NJ 08611  
Phone (609) 633-0719  
Subject Background Data.

Date 29, Nov, 93

Time 2:50 AM/PM PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-016-081-0097

**Notes:**

left message  
30 Nov 0900 Dave Paddock, case manager, is unaware of any sampling  
data obtained since the 1990 site inspection. Samples obtained from  
the drum dumping episode, he believes, were only ~~sample~~ tested for  
flammability.

- ☐ File \_\_\_\_\_
- ☐ Tickle File \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_
- ☐ Follow-Up By: \_\_\_\_\_
- ☐ Copy/Route To: \_\_\_\_\_

Follow-Up-Action: \_\_\_\_\_

Originator's Initials KB

**REFERENCE NO. 3**

# FROST ASSOCIATES

P.O. Box 495, Essex, Connecticut 06426  
(203) 767-7644 Fax (203) 767-7069

Nov 29, 1993

To: Jan Holderness  
Roy F. Weston Inc  
4th Floor Raritan Plaza  
Edison, New Jersey 08837-3616

Fr: Bob Frost  
Frost Associates  
P.O. Box 495  
Essex, Conn 06426

Tel: (203) 767-1254

Fax: (203) 767-7069

Sub: D & J Trucking  
Elizabeth, Essex County, NJ

CERCLIS: NJD980528962

Job: 04200-016-081-0097

Site Longitude: 74-07-46 74.129448

Site Latitude : 40-43-25 40.723610

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the products obtained by multiplying each X-coordinate by the difference between the adjacent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and E. The formula can be expressed:

$$\text{Area} = 1/2\{X_a(Y_e - Y_b) + X_b(Y_a - Y_c) + X_c(Y_b - Y_d) + X_d(Y_c - Y_e) + X_e(Y_d - Y_a)\}$$

For each ring, the selected Block Groups will be inside, outside, or intersected by the ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

When a ring intersects a Block Group, the intersect points are solved and plotted at the points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to calculate the segment area, the half moon shape between the chord line and the ring, and the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

The segment area is subtracted from the sub-polygon area to determine the area of the sub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then divided by the tract's total area to determine the percentage of area within the ring. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

On occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted screen pixels to the pixels within the polygon. A manual entry is allowed. Both the "paint" method and manual entry method override the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, and Block Group ID order that lie within, or partially within, the maximum ring. Each Block Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 population and house count extracted from the Census Bureau's 1990 STF-1A files.

The next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by "Units with individual well, Drilled, source of water"; "Units with individual well, Dug, source of water" and "Units with Other source of water".

For each ring, CENTRACTS then shows the Block Groups that are within that ring, the Block Group's total area in square miles, the partial area of the Block Group within that ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

The last section tallies the demographic data within each ring. The percentage of area for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined by subtracting the three mile data from the four mile, the two mile from the three mile, one from the two, etc... Population on private wells is calculated using the formula:  $((\text{Drilled} + \text{Dug Wells}) / \text{Households}) * \text{Population}$

D & J Trucking  
Elizabeth, Essex County, NJ  
NJD980528962

=====  
Site Data  
=====

Population: 402755.66  
Households: 154586.84  
Drilled Wells: 84.76  
Dug Wells: 15.00  
Other Water Sources: 140.27

=====  
Partial (RING) data  
=====

----- Within Ring: 4 Mile(s) and 3 Mile(s) -----

Population: 203812.17  
Households: 79342.58  
Drilled Wells: 74.76  
Dug Wells: 8.00  
Other Wells: 79.58

\*\* Population On Private Wells: 212.59

----- Within Ring: 3 Mile(s) and 2 Mile(s) -----

Population: 153173.41  
Households: 58350.00  
Drilled Wells: 10.00  
Dug Wells: 7.00  
Other Wells: 53.70

\*\* Population On Private Wells: 44.63

----- Within Ring: 2 Mile(s) and 1 Mile(s) -----

Population: 39389.93  
Households: 14692.54  
Drilled Wells: 0.00  
Dug Wells: 0.00  
Other Wells: 2.67

\*\* Population On Private Wells: 0.00

----- Within Ring: 1 Mile(s) and .5 Mile(s) -----

Population: 6370.72  
Households: 2199.80  
Drilled Wells: 0.00  
Dug Wells: 0.00  
Other Wells: 4.33

\*\* Population On Private Wells: 0.00

D & J Trucking  
Elizabeth, Essex County, NJ  
NJD980528962

---- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	7.18
Households:	1.59
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

\*\* Population On Private Wells: 0.00

---- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	2.24
Households:	0.34
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

\*\* Population On Private Wells: 0.00

\*\* Total Population On Private Wells: 257.22



**REFERENCE NO. 4**



State of New Jersey  
Department of Environmental Protection and Energy  
Division of Parks and Forestry  
Office of Natural Lands Management  
CN 404

Trenton, NJ 08625-0404  
Tel. # 609-984-1339  
Fax. # 609-984-1427

Jeanne M. Fox  
Acting Commissioner

Thomas F. Hampton  
Administrator

December 8, 1993

Richard Settino  
Roy F. Weston, Inc.  
Raritan Plaza One, 4th Floor  
Edison, NJ 08837

Re: D & J Trucking and Associated Waterways  
(Work Order No. 04200-016-081-0097-02)

Dear Mr. Settino:

Thank you for your data request regarding rare species information for the above referenced project site in Essex, Hudson, Middlesex, and Union Counties.

The Natural Heritage Data Base does not have any records for rare plants, animals, or natural communities on or within one half mile of the D & J Trucking site. However, there are records for several occurrences of rare species which may be on, or in the immediate vicinity of the waterways that you have associated with this site. The attached list provides additional information about these occurrences. Also attached is a list of rare species from records in the general vicinity of the project site (within approximately 4 miles).

Also attached are lists of rare species and natural communities which have been documented from Essex, Hudson, Middlesex, and Union Counties. If suitable habitat is present at the project site, these species have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish, Game and Wildlife, Endangered and Nongame Species Program.

In order to red flag the general locations of documented occurrences of rare and endangered species and natural communities, we have prepared computer generated Natural Heritage Index Maps. Enclosed please find these maps for the Arthur Kill, Elizabeth, Jersey City, and Perth Amboy USGS quadrangles.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice

details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

*Elena A. Williams*

Elena A. Williams  
Senior Planner  
Natural Heritage Program

cc: Lawrence Niles  
Thomas Hampton  
NHP File No. 93-4007462

# NATURAL LANDS MANAGEMENT

## CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA


The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEPE Land Use Regulation Program, CN 401, Trenton, NJ 08625-0401.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

08 DEC 1993

ON OR IN THE IMMEDIATE VICINITY OF ASSOCIATED WATERWAYS  
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN  
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
STERNA ANTILLARUM	LEAST TERN 		E		G4	S2	1977-??-??	Y
*** Other types								
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY				GU	S3	1986-06-??	Y
*** Vascular plants								
LEMNA PERPUSILLA	MINUTE DUCKWEED				G5	S1	1869-08-??	Y

3 Records Processed

08 DEC 1993

GENERAL VICINITY OF PROJECT SITE  
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN  
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
CISTOTHORUS PLATENSIS	SEDGE WREN		E		G5	S1	1963-??-??	Y
FULICA AMERICANA	AMERICAN COOT				G5	S1	1985-??-??	Y
PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2	1940-??-??	
PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1	1986-05-16	Y
STERNA ANTILLARUM	LEAST TERN		E		G4	S2	1977-??-??	Y
STERNA ANTILLARUM	LEAST TERN		E		G4	S2	1976-SUMMR	Y
*** Invertebrates								
NICROPHORUS AMERICANUS	AMERICAN BURYING BEETLE	LE	E		G1	SH	????-??-??	Y
*** Other types								
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY				GU	S3	1985-06-??	Y
*** Vascular plants								
LEMNA PERPUSILLA	MINUTE DUCKWEED				G5	S1	????-??-??	Y

9 Records Processed

**REFERENCE NO. 5**



LATITUDE 404325  
LONGITUDE 740746

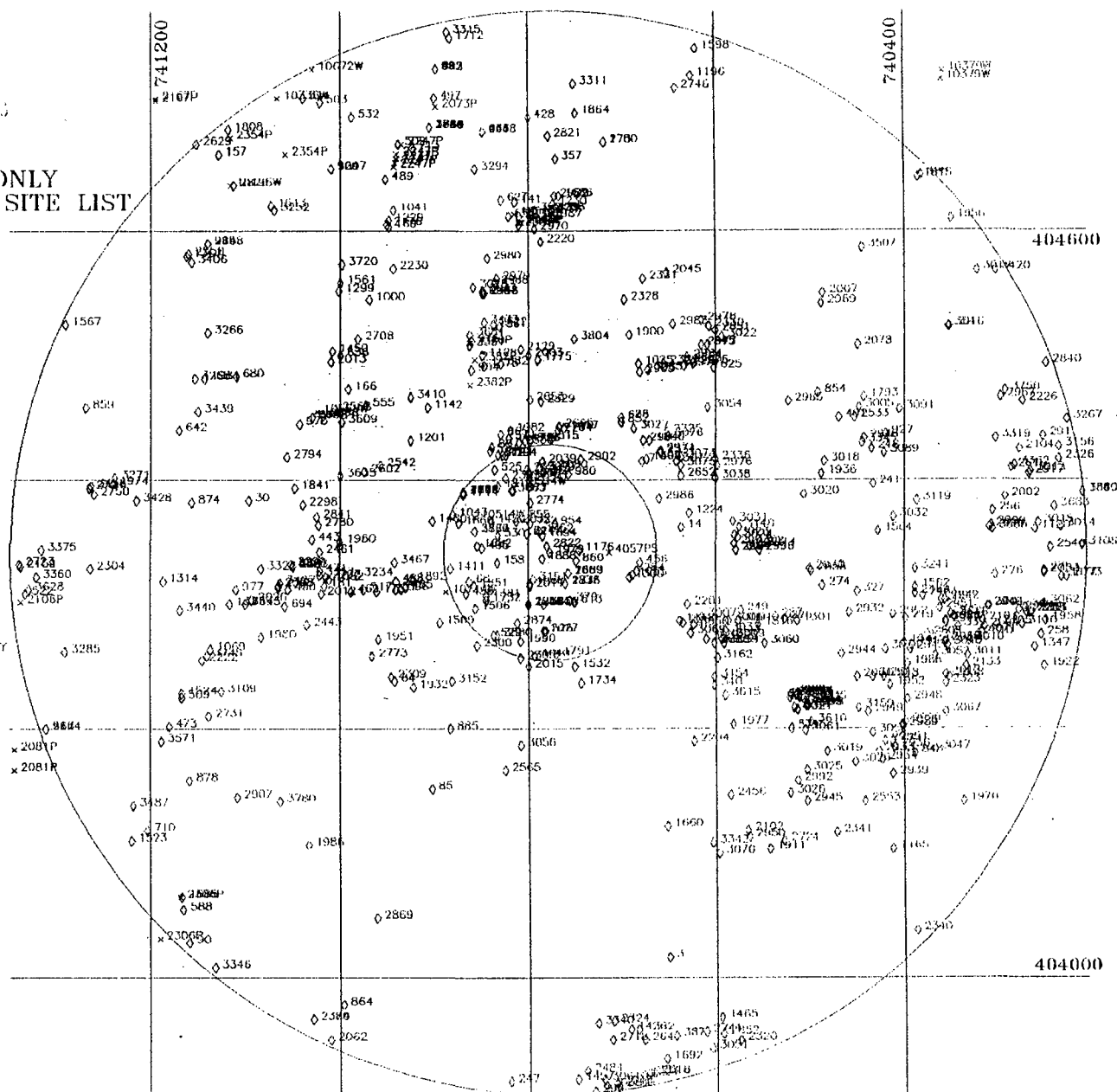
DRAFT

SCALE: 1:63,360  
(1 inch = 1 Mile)

\* 100,000 GPD WATER WITHDRAWAL POINTS ONLY  
 Ø COMPREHENSIVE SITE LIST CASES  
 1 MILE AND 5 MILE RADII INDICATED

COMPREHENSIVE SITE LIST CASES  
AS OF 05/20/93

PLOT PRODUCED BY:  
NJDEPE  
WATER SUPPLY ELEMENT  
BUREAU OF WATER ALLOCATION  
CN-426  
TRENTON, NJ 08625  
DATE: 12/22/93



SUBJECT TO REVISION

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GEO1	GEO2	CAPACITY
10195W	COLUMBUS HOSPITAL	2604664	#1	404622	741110	T	4.5	13	14	354	GTRB		160
10336W	CLARA MAASS HOSPITAL	2603344	WELL 1	404704	741040	T	4.9	13	01	501	GTRB		360
10379W	KEYSTONE METAL FINISHERS, INC.	2602297	2	404717	740335	T	5.8	17	09	150	GTRB		130
	KEYSTONE METAL FINISHERS, INC.	2604201	3	404713	740336	T	5.7	17	09	312	GTRB		300
10512W	SWENSON CO., INC.	2602717	1	404609	740809	E	3.4	17	07	400	GTRB		150
10514W	RONSON METALS CORP.	2603408	1	404358	740808	T	0.7	13	14	300	GTRB		150
	RONSON METALS CORP.	2604993	3	404342	740835	T	0.8	13	14	165			100
	RONSON METALS CORP.	2604514	2	4043	7408	T	0.5	13	14	300			100
10660W	NEW JERSEY BELL TELEPHONE	2603173	1	404433	741015		2.5	13	14	215	GTRB		80
10672W	ROCHE DIAGNOSTIC SYSTEM	4600229	1	404719	741019		5.0	13	01	602	GTRB		50
	ROCHE DIAGNOSTIC SYSTEM	4600230	2	404719	741018		5.0	13	01	610	GTRB		200
10714W	MOTHER FOOD PRODUCTS INC.	264345	1	404306	740653	M	1.0	13	14	40.5	GTRB		190
2073F	ISP VAN DYK, INC.	4600092	1	404700	740900	T	4.3	13	01	352	GTRB		100
	ISP VAN DYK, INC.	4600093	2	404700	740900	T	4.3	13	01	400	GTRB		150
	ISP VAN DYK, INC.	2605113	3	404700	740900	T	4.3	13	01	400	GTRB		150
2081F	CERTIFIED PROCESSING CORP.	4600094	1	404140	741326	F	5.3	39	07	202	GTRB		100
	CERTIFIED PROCESSING CORP.	2600265	2	404150	741326	F	5.3	39	07	630	GTRB		230
	CERTIFIED PROCESSING CORP.	2604624	3	404140	741326	F	5.3	39	07	250	GTRB		
2106F	JERSEY PLASTIC HOLDERS, INC.	2604728	2	404301	741322	F	4.9	13	07	350	GTRB		300
2141F	PEAFF TOOL & MANUFACTURING CO.	2602162	1	404604	740804	F	3.1	17	07	590	GTRB		175
	PEAFF TOOL & MANUFACTURING CO.	2602735	2	404604	740805	F	3.1	17	07	740	GTRB		140
	PEAFF TOOL & MANUFACTURING CO.	2604269	3	404604	740806	F	3.1	17	07	550	GTRB		105
	PEAFF TOOL & MANUFACTURING CO.	2604711	4	404604	740806	F	3.1	17	07	333	GTRB		
2167F	SCHERING PLOUGH CORPORATION	2600921	1	404704	741157		5.6	13	02	478	GTRB		160
	SCHERING PLOUGH CORPORATION	2604498	2	404703	741157		5.5	13	02	400	GTRB		130
2247F	SETON COMPANY - LEATHER DIV.	4600160	2	404637	740925	F	3.9	13	14	300	GTRB		360
	SETON COMPANY - LEATHER DIV.	4600161	3	404635	740925	F	3.9	13	14	230	GTRB		75
	SETON COMPANY - LEATHER DIV.	4600162	4	404633	740926	F	3.9	13	14	200	GTRB		300
	SETON COMPANY - LEATHER DIV.	2604969	5	404631	740927	F	3.9	13	14	400	GTRB		500
	SETON COMPANY - LEATHER DIV.	2604968	6	404642	740922	F	4.0	13	14	400	GTRB		100
2306F	HAYWARD MANUFACTURING PRODUCTS	2604712	1	404019	741154		5.1	39	19	274	GTRB		100
	HAYWARD MANUFACTURING PRODUCTS	2606867	2	404039	741141		4.7	39	19	275	GTRB		100
2320F	KOTOW TRADING CORPORATION	4600182	1	404506	740838	S	2.1	17	07	500	GTRB		210
	KOTOW TRADING CORPORATION	2602384	2	404506	740838	S	2.1	17	07	760	GTRB		500
2354F	ESSEX COUNTY DEPT. OF PARKS	2604894	2	404645	741110	T	4.8	13	14	950	GTRB		150
	ESSEX COUNTY DEPT. OF PARKS	4600216	1	404637	741035	S	4.4	13	14	200	GTRB		240
2382F	KARLSHANS USA, INC.	2604523		404446	740838	S	1.7	17	07	584	GTRB		900
	KARLSHANS USA, INC.	2604614		404458	740835	F	1.9	17	07	600	GTRB		1000
4067PS	RTC PROPERTIES INC	PASSAIC RIVER	INTAKE 1	404325	740708	E	0.6	17	07		SPUMP		1200

**REFERENCE NO. 6**

4200-16-ADGG



RARITAN PLAZA I  
4TH FLOOR, RARITAN CENTER  
EDISON, NJ 08837-3616  
908-417-5800 • FAX: 908-417-5801

- ☐ OVERNIGHT 10:30 AM  
☐ OVERNIGHT 3:30 PM

SHIP VIA:

FIRST CLASS MAIL

AIR MAIL

SPECIALS:

SPECIAL DELIVERY

CERTIFIED MAIL

RETURN RECEIPT

REGISTERED MAIL

UPS

VALUE \$ \_\_\_\_\_

SENT BY \_\_\_\_\_

WO # \_\_\_\_\_

DEPT # \_\_\_\_\_

☐ SITE LOG BOOK

☐ D & J TRUCKING  
☐ AVENUE P  
☐ NEWARK, NEW JERSEY

WO# 04200-016-081-0097

RFW 04-02-005/12-84 1/91

23 Nov 93 Conditions: Overcast, ~50°F, wind: West 5 mph.

1435 Directions: NJTP Exit 15E

Doremus Ave make Rt.

Make first Right and take to end.

Left on Avenue P. Go under train bridge

310 is second lot on left next to police

shooting range.

1435 Arrive on site. Site appears to be occupied

by AFA Pallet Co. Newark, NJ 589-8336

Site is nearly completely covered with

10-20ft high piles of mulch. A truck

was observed exiting the gate when

I arrived. Front gate is propped open.

The site appears to be fenced as far

as can be seen from Ave. P. A large

front end loader is on site. A grey tanker

is on site parked next to the fence near

Ave P. Tanker is on site inside of fence.

The tanker has a Red Placard with

the ~~AP~~ number 1993 and an open flame

symbol. Tanker has licence plate

No. H65420 state: New York. A drum

leaking a black oily substance is in front

of site property and appears to be leaking

near a storm drain. Linde, located at

360 Ave P. appears to be inactive. Linde

Borders the D&J site to the South. A

large patch of stained mulch is evident

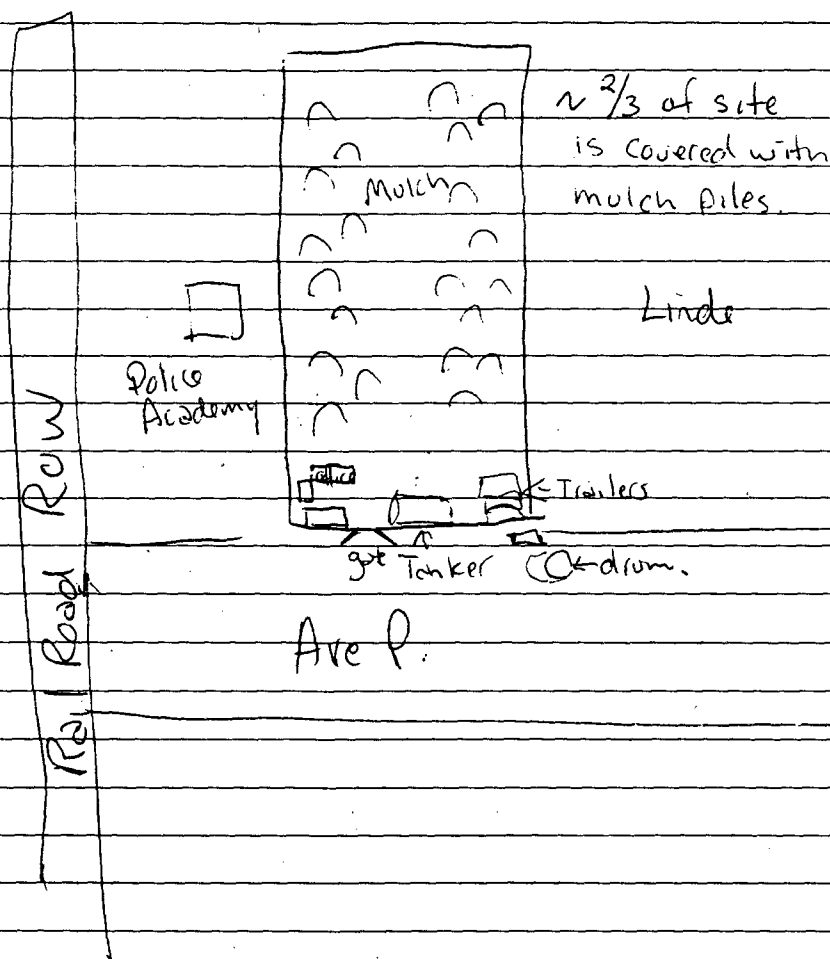
behind the front loader, however this could

possibly be wet mulch. Two office trailers

and one camper is located on site.

1505 A truck entered the site full of mulch and proceeded to dump the load of mulch. The site appears to be nothing more than a storage area for the mulch at this time.

1522 left site. 36 pictures taken. (KB)



**REFERENCE NO. 7**



File #  
07-14-515

RECEIVED

APR 15 1992

INSPECTION REPORT

Site: D & J Trucking

Block: 5060 Lot: 149

Address: 310-336 Avenue P  
Newark, New Jersey

Property Owner: Newark Housing  
Authority

Inspectors: Robert Beretsky *RB*  
Rodney F. Murray *RM*

Date of Inspection: 18 February 1992

Background:

The property was owned and/or operated by several chemical related industries from 1916 to the early 1970's; these industries include: American Cyanamid Company, 1916-1943; Martin Laboratories, Inc., 1943-1950; Union Carbide Corporation unknown to 1960 and Sun Chemical Corporation (now Sequa Corporation), 1960-1974. Sun Chemical Corporation sold the property to ~~D & J Trucking~~ *NHA* in April 1974. It has been reported that the site was utilized as a landfill (unregistered) for waste disposal by D & J Trucking.

In December 1977 the former president and a truck driver of D & J Trucking were arrested for dumping chemical waste into a pit on the site. The waste material disposed consisted of off-spec paint, oils, pigments, and residue from paint manufacture. It has also been alleged that numerous 55 gallon drums have been buried on site. No record of remedial action has been discovered for the subject site.

The property was purchased by the Housing Authority of the City of Newark in 1978 from D & J Trucking. The NHA entered into an agreement to sell the subject site for redevelopment in 1979. During the 1980's the NHA leased the site to auto salvage companies.

The site is currently leased to Advanced Enterprises Recycling, Inc. (AERI) for the storage of wood chip mulch. Associated with AERI, through corporate officials, is AFA Pallet Co., Inc. designated by the NHA as developer of the subject site.

Inspection:

Inspectors Beretsky and Murray of DRPSR/Bureau of Site Assessment arrived at the site at 1030 hours. Walter Roos of Advanced Enterprises Recycling, Inc. (sister company of AFA Pallet Co. Inc.) unlocked the gate allowing the inspectors to access the site. The day was overcast and approximately 40 degrees Fahrenheit. It should be noted that wood chip mulch covered most of the site. The sections referenced correspond to the locations denoted on the attached map.

Section A: Inspectors Beretsky and Murray proceeded to the south

side of the site. Two partially exposed drums were observed near a chain link fence at the border of the site. The contents of the drums could not be ascertained (picture #1). The inspectors observed a variety of debris (i.e. tires, metal, brick, etc.) along the edge of exposed soil and mulch adjacent to the railroad tracks. Water that had pooled in the area of the railroad tracks overlaid a tannish appearing material. Using colorpHast pH indicator strips the water on the north side of the railroad tracks had a pH ranging from 11 to 14. The pool extended approximately 50 yards east along the tracks (picture #2).

Section B: Proceeding east along the south bank of the site the inspectors observed several drums among other debris (tires, wood, demolition and construction debris, truck cab, etc.) along the stream (picture #3). What appeared to be a saddle tank, partially exposed, was observed at the outer edge of the fill north of the tracks. A drum within the stream appeared to contain solid material; however, this could not be verified by the inspectors. An oily sheen was observed on the stream. The stream had a pH between 5 and 6.

Section B-1: The inspectors observed a material that appeared to be hardened sludge. This material contained multiple colors that may coincide with paint or dye waste (picture #4).

Section C: At the southeast corner of the site a partially exposed drum and hardened sludge-like material, similar to the material in Section B-1, were observed. The stream continues south from the site at this location.

Section D: East of the site, beyond the chain link fence, is a storm water detention basin. The inspectors were unable to ascertain if the detention basin is servicing the site. Stones lining the detention basin appeared to have an oily stain. It is unknown if the detention basin is part of the site.

Section D-1: The chain link fence on the east side of the site has been breached. A tar-like residue is visible on the stones in the detention basin (picture #5).

Section E: The inspectors observed a battered shell of a camper trailer at the northeast corner amongst the debris (tires, wood, metal, etc.). The interior of the camper contained numerous 5-gallon buckets. Contents of the buckets were not inspected. A stream can be seen surfacing north and adjacent to the camper trailer shell. (Note: Subsequent review of NHA files indicates this may be the discharge point of an outfall pipe; the source of this outfall pipe is unknown.)

The northern portion of the site consists of soil intermixed with debris (tires, wood, metal, construction/demolition debris, several crushed drums, etc.) that appears to have been piled and graded toward the site (picture #6). This area forms the border between Newark Police Academy property and the site.

Section E-1: In the northeast corner of the site the inspectors discovered a tank covered with a tar-like residue. Debris inside the tank was coated with this material. The remaining tar-like residue in the tank appears to have solidified.

Section E-2: A second tank was discovered on the north side of the site east of Avenue P. The tank was covered with tar and appeared to be about one-third to one-half full of solidified tar and debris. Markings on the side of the tank were mostly illegible except for: ..row and ..ensack N.J..

Section F: At the front (adjacent to Avenue P) of the site the inspectors observed what appear to be building foundations (concrete slabs) including the remnants of a possible drainage system. Within the concrete slabs were two round metallic structures. (Note: Subsequent review of NHA blueprints indicated that storage tanks were formerly present in this area.)

The inspectors secured the site at 1240 hours.

Conclusion:

The portion of the site visible to inspection revealed solid waste landfilling and possible disposal of chemical waste. Observations made during the inspection suggest fill material extends from two to ten feet above the grade of the stream. Drums were observed in the stream and were exposed within the fill material. Tires, wood, brick and saddle tanks were observed along the north and south sides of the property. The stream along the south side of the site exhibited an oily sheen. West of where the stream on the southside surfaces, water had pooled in the area of the railroad tracks. The colorpHast pH indicator strips placed in the water north of the railroad tracks had a pH ranging from 11 to 14.

It has been alleged, according to a 1979 report, that the NHA had the site leveled. The detention basin east of the site appears to have been constructed in the area corresponding to a suspected landfill. According to Larry Paragon of AERI, the site had been graded prior to the placement of the wood chip mulch. These activities may have distributed waste material throughout the site. Drums, construction and demolition debris, wood, metal, etc. were observed by the inspectors at several locations at the site. No information has been discovered in regard to the fate of the material resulting from the excavation of the detention basin or the demolition of the site.

Partially exposed drums were observed during the inspection and may serve to verify allegations regarding drum burial in the late 1970's. The visible portion of these drums were completely rusted. It was also reported that drums of resinous material were discovered in December 1977. The solidified sludge like material observed on February 18 may correspond with this material. The high pH and tannish material observed at location A may be a result of lime disposal (from acetylene manufacture) by Union Carbide Corporation. Merck states this material is a strong caustic that may cause severe irritation of the skin and mucous membranes. Color aerial photographs taken in August 1972 reveal a possible lagoon and an area on the south side of the site (west of stream exiting the site) that appear brown.

Access to the site is prohibited by chain link fence on the west and south sides, however, access can be achieved from the east and north. The chain link fence at the eastern border has been breached and extends north to the stream. Assorted debris and soil piled to form a berm of varying height and thickness constitutes the northern border. Presently, the property is almost completely covered by wood chip mulch.

Recommendation:

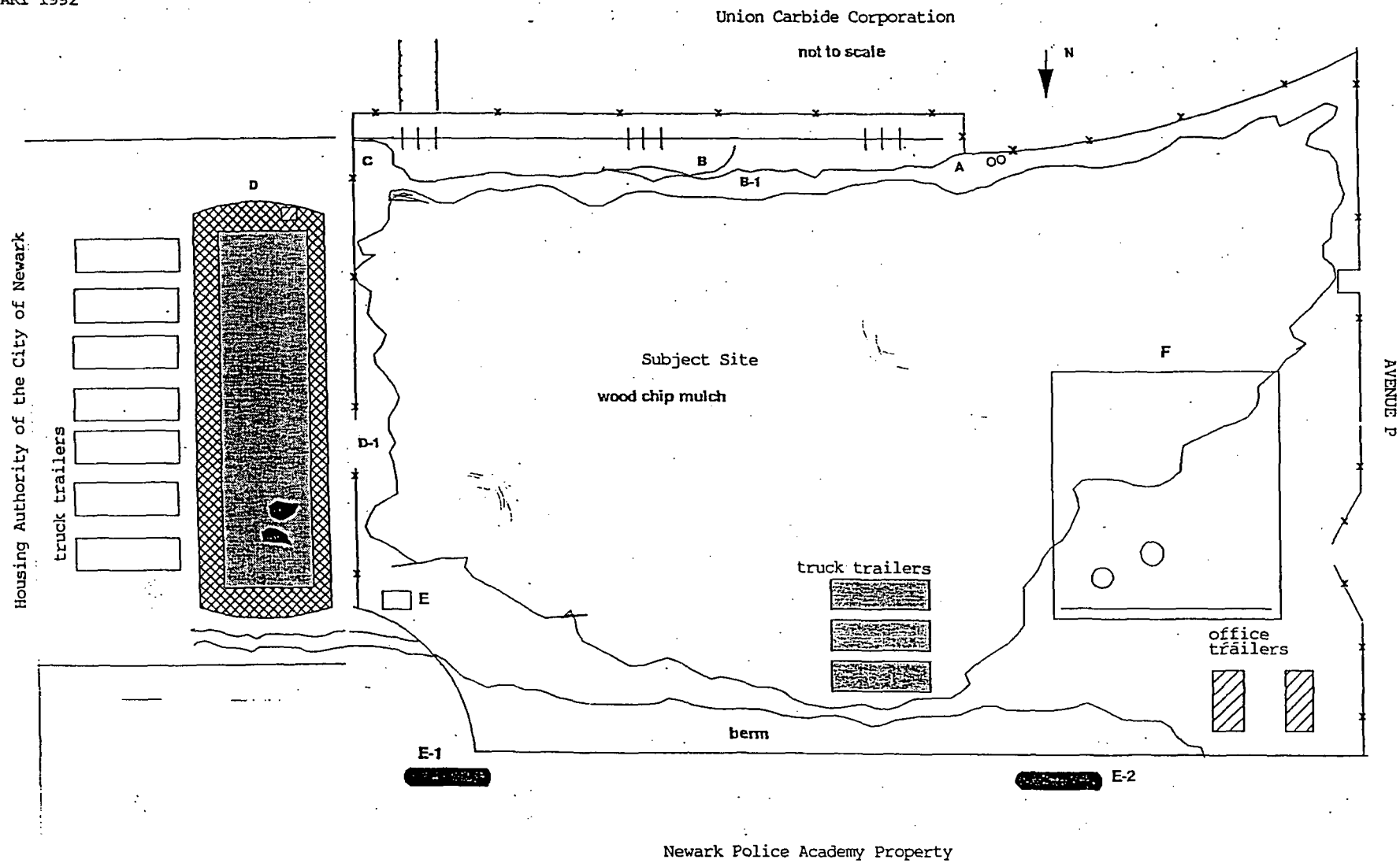
On the basis of this visual inspection and the information gathered in the course of the responsible party investigation; this site should be sent to the Responsible Party Cleanup Element for remedial action. As a part of the potential remediation, the

D & J Inspection  
Page 5

Housing Authority of the City of Newark (NHA) and the operator, AFA Pallet Co. Inc., should supply the Department with an agenda for storage and removal of the wood chip mulch.

RFM

NJDEPE, DRPSR, BSA  
D&J TRUCKING INSPECTION  
18 FEBRUARY 1992  
MAP 1



**REFERENCE NO. 8**

**PHONE CONVERSATION RECORD**

Conversation with:

Name Alan Shew

Company Newark Engineers

Address \_\_\_\_\_

Phone (201) 733-4300

Subject Floodplain Info. for lot 149 Block 5060

Date 6 Jan, 94

Time 11 30 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 05J

Notes:

Zone A-5 (100 yr flood) elevation = 10 ft above MSL

~~34~~

☐ File \_\_\_\_\_

☐ Tickle File \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

☐ Follow-Up By: \_\_\_\_\_

☐ Copy/Route To: \_\_\_\_\_

Follow-Up-Action: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Originator's Initials KS



**REFERENCE NO. 9**



## PROJECT NOTE

K. Bobrowski

Originator

TO: File

DATE: 7 January 94

FROM: Keith Bobrowski

W.O. NO.: 97

SUBJECT: Biase's Restaurant

### NOTES:

Biase's Restaurant, owner of the nearest well in the  
Site Inspection report, is located greater than four  
miles from the D&J Trucking Site. The address of  
Biase's is Bloomfield Ave (Between 8<sup>th</sup> & 9<sup>th</sup>), Newark.

**PHONE CONVERSATION RECORD**

Conversation with:

Name Larry Biase

Company Bases Restaurant

Address \_\_\_\_\_

Phone (201) 483-3980

Subject Well water usage

Date 6 / Jan / 94

Time 11:35 (AM/PM)

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. \_\_\_\_\_

Notes:

Bases Restaurant uses well water as a drinking water  
source. They have had no problems to date. Restaurant  
seats approx. 600 people.

☐ File \_\_\_\_\_

☐ Tickle File \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

☐ Follow-Up By: \_\_\_\_\_

☐ Copy/Route To: \_\_\_\_\_

Follow-Up-Action: \_\_\_\_\_

Originator's Initials KD

**REFERENCE NO. 10**



State of New Jersey  
Department of Environmental Protection and Energy

Water Supply Element

CN 426

Trenton, NJ 08625-0426

Tel. # 609-292-7219

Fax. # 609-292-1654

Jeanne M. Fox  
Acting Commissioner

SEP 17 1993  
Steven P. Nieswand, P.E.  
Administrator

SEPTEMBER 15, 1993

Weston  
Raritan Plaza 1  
4th Floor, Raritan Center  
Edison, New Jersey 08837-3616

Att: Thomas A. Varner, Site Assessment Manager

Dear Mr. Varner:

Re: Surface Water Intakes

This is in regard to your letter of September 9, 1993 requesting information on surface water intakes within fifteen miles of two particular sites. You had further indicated that the intakes could be of a commercial, agricultural or potable nature. Please be advised that the Bureau of Safe Drinking Water (Bureau) regulates only Public Water Supplies as defined in the Safe Drinking Water Act. You may wish to contact the Bureau of Water Allocation at (609) 292-2957 for intakes other than those regulated by this Bureau.

Comme.  
agricult.

Rather than perform an analysis of the intakes, I have attached for your use copies of this Bureau's inventory of potable water intakes and an accompanying list with latitudes and longitudes of the intakes as per the information available to us.

If you should have any questions on the attached information, please call me at (609) 292-5550.

Very Truly Yours,

John F. Fields  
Supervising Environmental Engineer  
Compliance Section

attach

c Thomas McCarthy

## SURFACE WATER INTAKE - PUBLIC SUPPLY

MUNICIPALITY	SURVEYOR	SOURCE	ID	LONG/LAT
ATLANTIC CITY	US ARMY FT DIX	RANOCAS CRK	0325001	74 37 47.10 39 57 38.00
ATLANTIC CITY	ATLANTIC CITY WATER DEPT.	DOUGHTY RESERVOIR	0102001	74 31 21.06 39 25 48.75
NEWMILFORD	HACKENSACK WATER CO.	ORADELL RESERVOIR	0238001	74 11 28.55 40 57 28.44
NEWMILFORD	HACKENSACK WATER CO.	HACKENSACK RIVER	0238001	74 1 36.64 40 56 47.63
CITY OF BURLINGTON	BURLINGTON CITY WATER DEPT.	DELAWARE RIVER (EXISTING)	0305001	74 50 21.82 40 5 19.78
CITY OF BURLINGTON	BURLINGTON CITY WATER DEPT.	DELAWARE RIVER (FUTURE)	0305001	74 50 36.07 40 5 14.45
CALDWELL TOWNSHIP	N. J. D. W. S. C.	POMPTON RIVER	1613001	74 16 22.79 40 53 58.59
LONG BRANCH	LONG BRANCH WATER DEPT.	LONG BRANCH RIVER	0717001	74 17 19.48 40 45 33.65
MIDBORN TOWNSHIP	COMMONWEALTH WATER DEPT.	PASSATUCK RIVER	0712001	74 21 56.16 40 44 42.88
MIDBORN TOWNSHIP	COMMONWEALTH WATER DEPT.	CANOE BROOK	0712001	74 21 13.31 40 44 40.72
NEWARK	NEWARK	PEQUANNOCK WATER SHED	0714001	74 25 27.07 41 1 32.44
GREENWICH TOWNSHIP	DUPONT-REPAUND PNT-CBBSTWN	DELAWARE RIVER		75 18 23.02 39 50 34.97
JERSEY CITY	JERSEY CITY DIV. OF WATER	BOONTON RESERVOIR	0906001	74 23 51.41 40 53 33.80
BLOOMSBURY	BOROUGH OF BLOOMSBURY	RYNE HOLLOW (*)	1003001	75 4 42.46 40 38 48.50
CITY OF LAMBERTVILLE	LAMBERTVILLE WATER CO.	SWAN CREEK RES. EAST	1017001	74 55 28.18 40 21 40.52
CITY OF LAMBERTVILLE	LAMBERTVILLE WATER CO.	SWAN CREEK RES. WEST	1017001	74 55 43.90 40 21 46.63
CITY OF LAMBERTVILLE	LAMBERTVILLE WATER CO.	DELA. -RAR. CANAL (*)	1214001	74 56 46.94 40 21 55.90
TRENTON	CITY OF TRENTON	DELAWARE RIVER	1111001	74 46 45.57 40 13 19.06
CITY OF PERTH AMBOY	PERTH AMBOY WATER DEPT.	TENNENTIS CK. (RECHARGE)	1216001	74 20 12.23 40 25 33.99
EDISON TOWNSHIP	MIDDLESEX WATER CO.	RARITAN RIVER	1225001	74 26 32.12 40 30 2.46
NEW BRUNSWICK	NEW BRUNSWICK WATER DEPT.	LAWRENCE BROOK	1214001	74 24 45.97 40 28 58.48
NO BRUNSWICK TWP	TWP. OF NO BRUNSWICK	DELA. -RAR. CANAL	1214001	74 34 59.03 40 27 38.49
SAYREVILLE	SAYREVILLE WATER DEPT.	SOUTH RIVER (RECHARGE)	1219001	74 21 41.75 40 24 58.99
WOODBIDGE	MIDDLESEX WATER CO.	DELA. -RAR. CANAL	1225001	74 27 34.00 40 30 25.66
HOWELL TWP	N. J. WATER SUPP. AUTH.	MANASQUAN RIV. (PROPOSED)	1352005	74 11 27.43 40 10 31.82
HOWELL TWP	N. J. WATER SUPP. AUTH.	MANASQUAN RIV. (PROPOSED)	1352005	74 7 18.84 40 8 44.98
LONG BRANCH	MONMOUTH CONSOLID. WAT. CO.	SHARK RIVER	1345001	74 4 16.51 40 11 53.69
LONG BRANCH	MONMOUTH CONSOLID. WAT. CO.	JUMRING BROOK	1345001	74 3 57.82 40 12 11.83
MANALAPAN TWP.	MATCHAPONIX WAT. SUPP. CO.	MATCHAPONIX BROOK	1326004	74 21 50.42 40 18 33.20
SHREWSBURY	MONMOUTH CONSOLID. WAT. CO.	SWIMMING RIVER RES.	1345001	74 7 13.35 40 19 6.70
HALL TOWNSHIP	MONMOUTH CONSOLID. WAT. CO.	MANASQUAN RIV. GLENDOLA RES.	1345001	74 6 45.13 40 11 42.47
JEFFERSON TWP.	JEFFERSON TWP. M. U. A.	LAKE SHAMNEE (*)	1414001	74 35 50.64 40 58 12.04
TOWN OF BOONTON	TOWN OF BOONTON	TAYLORTOWN RESERVOIR	1401001	74 23 0.06 40 57 13.06
TOWN OF MORRISTOWN	SOUTHEAST MORRIS COUNTY	CLYDE POTTS RESERVOIR	142001	74 34 51.50 40 48 21.61
BRIDGE TOWNSHIP	BRIDGE TOWNSHIP	REDECK RIVER	1505001	74 18 28.07 40 41 28.07
BAYDON TOWNSHIP	BAYDON WATER DEPT.	MOLLY JONES RIVER	1503001	74 17 41.75 40 38 51.93
PASSATUCK VALLEY	PASSATUCK VALLEY WATER	PASSATUCK RIVER (TOTAL)	1505002	74 17 41.75 40 52 58.78
POMPTON LAKES	N. J. D. W. S. C.	RAMAPO RIVER	1613001	74 16 54.91 40 58 17.93
WANAGUE BOROUGH	N. J. D. W. S. C.	RAMAPO RIVER	1613001	74 16 44.68 40 59 33.45
WANAGUE BOROUGH	N. J. D. W. S. C.	WANAGUE RESER.	1613001	74 17 39.54 41 2 47.67
BRANCHVILLE BOROUGH	BRANCHVILLE WATER DEPT.	DRYER CREEK RESERVOIR	1906002	74 35 20.05 41 6 41.79
BRANCHVILLE BOROUGH	BRANCHVILLE WATER DEPT.	WALLKILL R. (FRANKLIN PND.)	1096002	74 34 17.07 41 8 14.40
BRANCHVILLE BOROUGH	BRANCHVILLE WATER DEPT.	WALLKILL R. (FRANKLIN PND.)	1915001	74 34 26.58 41 2 31.05
BRANCHVILLE BOROUGH	BRANCHVILLE WATER DEPT.	LAKE MORRIS	1920001	74 34 26.58 41 15 31.05

# SURFACE WATER INTAKES - PUBLIC SUPPLY

SURVEYOR

SOURCE

TD

LONG/LAT

UNIT	CITY OF RAHWAY	RAHWAY WATER DEPARTMENT	RAHWAY RIVER	2013001	74	12	28.57	40	37	47
	ELIZABETH	ELIZABETH TOWN WATER CO.	RARITAN RIVER	2004002	74	34	6.28	40	32	45.50
	ELIZABETH	ELIZABETH TOWN WATER CO.	MILLSTONE RIVER	2004002	74	34	10.91	40	32	31.02
	ELIZABETH	ELIZABETH TOWN WATER CO.	CONFL. OF RAR. & MILL. RVS.	2004002	74	34	1.82	40	32	33.33
	HACKETTSTOWN	HACKETTSTOWN M. U. A.	LOWER MINE HILL RESERVOIR	2108001	74	47	41.62	40	51	23.77
	HACKETTSTOWN	HACKETTSTOWN M. U. A.	BURD RESERVOIR	2108001	74	48	1.64	40	50	27.91
	TOWN OF BELVIDERE	BUCKHORN SPRINGS WATER CO.	IMBOUND RES. ON BUCKHORN CK.	2103001	75	4	20.99	40	42	50.02
	HARTFORD	HARTFORD WATER CO.	SPRING ROCK CK. RES. (*)	2102001	75	1	48.22	40	45	55.70

01/01/04 10:20:32 AM

# SURFACE WATER INTAKE LOCATIONS

## BUREAU OF SAFE DRINKING WATER

Prepared by: Michael Mariano

### CENTRAL

TROWEN  
BURL CITY  
NOR BRUN  
H. BRUN  
H. C

SAYREVILLE  
BRICK  
H. W. S. A.  
H. W. S. A.  
H. W. S. A.  
H. W. S. A.  
H. W. S. A.



STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF SAFE DRINKING WATER  
MARCH 1992

PWSID#	PURVEYOR NAME	PHONE NUMBER	INTAKE MUNICIPALITY	INTAKE LOCATION
0102001	ATLANTIC CITY WATER DEPARTMENT	609-345-3315	ABSECON	DOUGHTY POND - South tip - Mays Landing Rd. & Mill Rd.
0238001	HACKENSACK WATER DEPARTMENT	201-767-9300	PARAMUS	SADDLE RIVER - South of intersection of Paramus Rd. & Midland Ave.
			ORADELL	HACKENSACK RIVER - At Martin Ave.
			NORTHVALE	SPARK HILL CREEK - Northwest of intersection of Pegasus Ave. & Hill Terr.
			ORADELL	LONG SWAMP BROOK - At Martin Ave.
0305001	BURLINGTON CITY WATER DEPARTMENT	609-386-0307	EAST BURLINGTON	DELAWARE RIVER - 1/4 mile north of Assiscunk Creek
			BURLINGTON ISLAND	BURLINGTON ISLAND LAKE
0325001	FORT DIX	609-542-5040		RANCOCAS CREEK
1613001	NJWSC	201-575-0225	POMPTON LAKES	RAMAPO RIVER - At Pompton Lake (pump to Wanaque Res.)
			WANAQUE	WANAQUE RESERVOIR - Ringwood Ave & Oricchio Ave
0717001	CITY OF ORANGE	201-762-6000	SOUTH ORANGE	ORANGE RESERVOIR - On West branch of Rahway River 40 ft upstream from dam

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF SAFE DRINKING WATER  
MARCH 1992

PWSID#	PURVEYOR NAME	PHONE NUMBER	INTAKE MUNICIPALITY	INTAKE LOCATION
0712001	NJ AMERICAN NORTHERN DISTRICT	201-376-8800	MILLBURN	PASSAIC RIVER - At Kennedy Parkway
			SHORT HILLS	CANOE BROOK - North of Route 24
			CALDWELL	POMPTON RIVER - At Bridges Rd.
0714001	NEWARK WATER DEPT	201-256-4965		PEQUANNOCK WATER SHED
0906001	JERSEY CITY WATER DEPARTMENT	201-547-4390	BOONTON	BOONTON RESERVOIR - 200 yds northwest of Washington St Bridge
			ROCKAWAY	SPLIT ROCK RESERVOIR - Empties into Boonton Res. via Rockaway River
1017001	LAMBERTVILLE WATER DEPARTMENT	609-397-0526	LAMBERTVILLE	SWAN CREEK RESERVOIR EAST
			LAMBERTVILLE	SWAN CREEK RESERVOIR WEST
			LAMBERTVILLE	DELAWARE-RARITAN CANAL - At Swan St. (Emergency)
1111001	CITY OF TRENTON	609-989-3208	TRENTON	DELAWARE RIVER - At Rt 29 north of Calhoun St. Bridge
1216001	PETH AMBOY	908-826-0290	OLD BRIDGE	TENNENTS POND - At Watervorks Rd.
1225001	MIDDLESEX WATER CO	908-634-1500	EDISON	DELAWARE-RARITAN CANAL & MILLSTONE RIVER - At Rt 18

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF SAFE DRINKING WATER  
MARCH 1992

PWSID#	PURVEYOR NAME	PHONE NUMBER	INTAKE MUNICIPALITY	INTAKE LOCATION
1214001	NEW BRUNSWICK WATER DEPARTMENT	908-745-5060	NEW BRUNSWICK	LAWRENCE BROOK - At Burnet S. St.
			NEW BRUNSWICK	DELAWARE-RARITAN CANAL - At George St & College Ave
1214001	NORTH BRUNSWICK	908-247-0922	FRANKLIN TWP	DELAWARE-RARITAN CANAL - At Suydan Ave.
1219001	SAVERVILLE	908-390-7000	OLD BRIDGE	SOUTH RIVER - At Main St North of Rt 18
1352005	NEW JERSEY WATER SUPPLY AUTH.		WALL TWP	MANASQUAN RIVER - Hospital Rd. North of Garden State Parkway (Pump to Manasquan Resevior)
1345001	NJ AMERICAN - MONMOUTH		WALL TWP	MANASQUAN RIVER - Hospital Rd. North of GSP (Pump to Glendola Reservoir)
			NEPTUNE TWP	SHARK RIVER - Off Corlies Ave. 2000' North of GSP
			NEPTUNE TWP	JUMPING BROOK - At Greensgrove & Corlies Aves
			LINCROFT	SWINNING RIVER RESERVOIR - 1000' West of Swinning Riv.
1326004	HATCHAPONIX		MANALAPAN	HATCHAPONIX BROOK - At Wilson Ave.
1401001	TOWN OF BOONTON	201-299-7740	MONTVILLE	TAYLORTOWN RESERVOIR - At Taylortown Rd.

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF SAFE DRINKING WATER  
MARCH 1992

PWSID#	PURVEYOR NAME	PHONE NUMBER	INTAKE MUNICIPALITY	INTAKE LOCATION
1403001	BUTLER WATER DEPT	201-838-7200	BUTLER	KIKEOUT RESERVOIR - At Resevior Rd.
1424001	SOUTH EAST MORRIS COUNTY	201-538-5600	MENDHAM	CLYDE POTTS RESERVOIR - Cold Hill Rd & Woodland Rd
1506001	BRICK TWP	908-458-7000		NETEDECONK RIVER
1603001	HALEDON WATER DEPT		HALEDON	HALEDON RESERVOIR - Lower Basin pump station at Belmont Ave.
1605002	PASSAIC VALLEY WATER CCMMISSION	201-256-1566	WAYNE	POMPTON RIVER - At Confluence of Ramapo & Pequannock Rivers
			TOTOWA	PASSAIC RIVER - At Union Blvd.
1708300	E.I. DUPONT PENNSVILLE	609-299-5000		SALEM CANAL
1712001	SALEM WATER DEPT	609-935-0350	CLINTON TWP	LAUREL LAKE - At Waterworks Rd & Lake Ave.
			ALLOWAY TWP	ELKINTON MILL POND - Waterworks Rd. 3 miles east of Laurel Lake (Seasonal)
1903001	BRANCHVILLE WATER DEPARTMENT	201-948-6463	FRANKFORD TWP	BRANCHVILLE RESERVOIR - 7300' norhteast of Mattison Ave & Mattison School Rd.
1906002	FRANKLIN WATER DEPT	201-827-7060	FRANKLIN BOROUGH	FRANKLIN POND - Franklin Ave. Across from plant
1915001	NEWTON WATER DEPT	201-383-3521	SPARTA TWP	MORRIS LAKE

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF SAFE DRINKING WATER  
MARCH 1992

PWSID#	PURVEYOR NAME	PHONE NUMBER	INTAKE MUNICIPALITY	INTAKE LOCATION
1921001	SUSSEX WATER DEPT	201-967-5622	WANTAGE TWP	COLESVILLE RESERVOIR - At. Brink Rd. 400' west of Rt. 23
2013001	RAHWAY WATER DEPT	201-388-0086	RAHWAY	RAHWAY RIVER - At pump station off Valley Rd & Lambert St.
2004002	ELIZABETHTOWN WATER COMPANY	201-345-4444	BRIDGEWATER TWP	RARITAN & MILLSTONE RIVERS - At confluence
2108001	HACKETTSTOWN MUA	201-852-3622	DRAKESTOWN  DRAKESTOWN	MINE HILL RESERVOIR - Off Mine Hill Rd.  BURD RESERVOIR - Off Reservoir Rd. Southeast of

**REFERENCE NO. 11**

**PHONE CONVERSATION RECORD**

Conversation with:

Name Bob Soldwedel  
Company Chief, Bureau of Freshwater Fisheries (NJDEPE)  
Address \_\_\_\_\_

Date 05 / 24 / 93  
Time 15:40 AM (PM)

☒ Originator Placed Call

☐ Originator Received Call

Phone (609) 292-8642

W.O. NO. 04200-016-081-0002

Subject Fishing in Newark Bay Complex

Notes: Mr. Soldwedel told me that, despite certain restrictions, people do fish and trap fish from the Passaic River, Newark Bay, Arthur Kill, Kill Van Kull, and the Narrows area. He said that people fish anywhere there's a shoreline along these water bodies. He also said there was something on television showing people fishing in part of these waters.

☒ File Int'l Metallurgical Services Follow-Up Action: \_\_\_\_\_

☐ Tickle File \_\_\_\_\_

☐ Follow-Up By: \_\_\_\_\_

☐ Copy/Route To: \_\_\_\_\_

**REFERENCE NO. 12**



**PHONE CONVERSATION RECORD**

## Conversation with:

Name Bob PapsonCompany Freshwater Fisheries

Address \_\_\_\_\_

Phone (908) 236-2118Subject Fishery InformationDate 12, 20, 93Time 2:15 AM/PM (PM)☒ Originator Placed Call☐ Originator Received CallW.O. NO. 04200-016-081-0091

## Notes:

Bob Papson told me that people do fish in the Passaic River portion of my 15-mile surface water pathway (From lower Garfield to lower Harrison in Hudson County), but he said that fishing is heavier upstream. BP informed me that my surface water bodies are part of the Newark Bay Complex. Sale or consumption of cray fish and shellfish from this complex is prohibited. Limited consumption of Blue fish, white perch and Catfish is advised.

The Passaic River portion of my pathway contains white perch, striped bass, crabs, carp, bullhead and river herring. These species are the most common species used for consumption. The American eel is also present in this water body. BP told me that the same species basically apply for the Saddle River as well, but in smaller quantities. This leads to less consumption from the Saddle River, but BP said that it has the same potential as the Passaic River. Neither section of river has commercial fisheries present.

BP had no records for Wesley Brook.

☐ File \_\_\_\_\_☐ Tickle File \_\_\_\_\_☐ Follow-Up By: \_\_\_\_\_☐ Copy/Route To: \_\_\_\_\_

Follow-Up Action: \_\_\_\_\_

Originator's Initials

*JF*

**REFERENCE NO. 13**

MEMORANDUM

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Joseph Coronato, DAG, Div. of Crim. Justice  
Steve Tasher, DAG, Chief, Environmental Section

TO: \_\_\_\_\_

FROM: Bruce Schwartz <sup>BES</sup> THRU: Donald A. Brown <sup>DAB</sup>

SUBJECT: Illegal Chemical Dump in Newark  
D & J Trucking  
OHMP Case #77-12-16-4

DATE: December 16, 1977

At 1:30 p.m. today the Office of Hazardous Substances Control was contacted by Walter JANICEK, Environmental Specialist, City of Newark Dept. of Engineering (201-733-8820 or 6683), who reported that Newark police yesterday arrested two men caught in the act of dumping drums of chemical waste.

Janicek called to request the State's assistance and guidance in prosecuting the dumpers and in removing the environmental problems they appear to have created.

The arrests were made on the premises of D & J Trucking and Waste Co., 310 Avenue P, which is located in an industrial area of Newark. Those arrested were Dominic Attanasi, president of D & J Trucking, and Ralph Smith, the driver of the truck from which the wastes were being dumped. The police have impounded the truck and several barrels that were on it. Attanasi and Smith were charged under municipal ordinances (the police apparently not knowing about the Water Pollution Control Act) and released without bail.

According to Janicek, Attanasi and Smith were arrested for a similar violation last April and were fined \$100 under municipal ordinances. Yesterday's arrests came as the result of a police department stakeout. Police had the D & J premises under observation with binoculars. The truck was seen pulling in the yard. It was driven up to a pit dug in the ground, the drums were pushed off, opened and were being poured into the pit when police moved in and arrested Attanasi and Smith.

Janicek said he has inspected D & J's premises, and from the physical evidence of chemical deposits it appears that dumping may have been going on there for months. He requested the State make an inspection and asked assistance in obtaining laboratory analysis of samples. Tom Allen of the Office of Hazardous Substances Control (OHSC) is attempting to secure lab assistance from EPA Edison.

Because of workload from other cases, Karl Birns, OHSC Chief, indicated he would not be able to assign an inspector to investigate very soon. I therefore telephoned Bob Reed, in charge of Field Operations and Enforcement for the Passaic-Hackensack Basin of MS&E Element. I put him in touch with Janicek. The Basin has scheduled an inspection on Monday; I have requested samples and photos be taken.

December 16, 1977

We were unable to reach either Mr. Coronato or Mr. Tasher by telephone this afternoon in order to secure advice about prosecution. However, I informed Janicek about the penal provisions of N.J.S.A. 58:10A-10(f) and suggested those arrested might be charged under the Water Pollution Control Act. I attempted to contact Lt. NEVARCIK of the Newark Police, but he had gone home. I left a message with the desk sergeant suggesting Lt. Nevarcik consult the statute and that I would call again on Monday.

This case seems to be in a good posture for criminal prosecution. Since there seems to be evidence that dumping has occurred over a period of time, and that this is not an isolated incident, investigation by the Division of Criminal Justice seems appropriate. D & J, according to Janicek, was under contract to haul wastes from at least one client, Benjamin Moore Paints, and may have had others. Seizing D & J's records might lead to other violations or implicate the generators in a dumping conspiracy. We would like advice on how we should proceed in this matter.

Concerning the environmental problem: Janicek described conditions at the site in very dark terms. Oily matter is leaking into adjacent Plum Creek and the odor of solvents is prevalent. P-H Basin's inspection on Monday should give us a better idea how bad the situation is. A cleanup effort will almost certainly be necessary, and of course the question is whether to proceed with an injunction against the company or to use the Spill Fund. Complicating matters is the fact that the land appears to be owned by the Newark Housing Authority, which leases it to D & J.

Attanasi and Smith, having been released from jail, are free, and the company is under no restraints from continuing to operate at the site. If our inspection confirms Janicek's observations, it seems obvious that we will have to move immediately to shut down their operation and at least prevent them from hauling any more waste in. D & J are registered as haulers with PUC and presumably Solid Waste Admin as well. We will notify SWA of this on Monday.

BSS:st

cc: Karl Birns  
Bob Reed  
Dick Bellis  
Jeff Zelikson

# POLICE DEPARTMENT

## INCIDENT REPORT

NEWARK.

FILL OUT COMPLETE REPORT WHEN LISTED IN CLASSIFICATION LIST AND REPORT GUIDE AS 802 (NO ASTERISK). DO NOT FILL OUT SHADED PORTION WHEN LISTED 802\* (WITH ASTERISK).

1. VICTIM OR COMPLAINANT'S NAME <b>1/A Wayne Smith P/OB Zariczny</b>		2. TELEPHONE NO. <b>7336190</b>		17. STATUTE OR ORDINANCE		18. SECTION <b>317</b>		19. DISTRICT NO.		20. CENT. COMP NO. <b>7649</b>	
3. REPORTING OFFICER (NAME) <b>P/O Wayne H Smith</b>		4. BADGE NO. <b>1432</b>		21. INCIDENT		22. LOCATION <b>310 Ave P</b>		23. TIME OF OCCURRENCE (ON OR BET.) HOUR: <b>0820</b> DAY OF WEEK: <b>WED</b> MONTH: <b>12</b> DAY: <b>15</b> YEAR: <b>77</b>		24. WAS FORCE USED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NO KN	
5. SEX: <b>M</b> RACE: <b>W</b> AGE: <b>61</b> OCCUPATION:		6. INJURY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		7. CORRECTIONAL INSTITUTION		8. CAN VICT. IDENT. OFFENDER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		9. GENDER: <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> OTHER		10. HAD BEEN DRINKING: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
11. PERSON REPORTING CRIME <b>Officers Unit 317</b>		12. TELEPHONE NO. <b>7336190</b>		13. RESIDENCE OF PERSON REPORTING CRIME <b>EAST District</b>		14. DATE REPORTED: MONTH: <b>12</b> DAY: <b>15</b> YEAR: <b>77</b>		15. OCCURRED ON VIEW <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		16. TYPE OF PREMISES OR PROPERTY ATTACKED <b>Lot Newark Housing Property</b>	
17. HOW ATTACHED <b>Hole in ground</b>		18. MEANS OF ATTACK <b>TRUCK, DRUMS Liquid</b>		19. MOUVS OPERANDI <b>N/A</b>		20. WAS A WEAPON USED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NO KN		21. TYPE OF WEAPON		22. TYPE OF WEAPON	
23. OBJECT OF ATTACK <b>disposal of chemicals</b>		24. VEHICLE INVOLVED IN CRIME		25. YEAR: <b>61</b> MAKE: <b>Ford</b> LIC. NUMBER: <b>XDZ 45W</b> COLOR: <b>TRUCK</b> BODY TYPE: <b>TRUCK</b> SERIAL NUMBER: <b>T7KJ501236</b>		26. NAME OF SUSPECT <b>Ralph Smith</b>		27. RESIDENCE <b>68 Myrtle Ave Irvin, ton</b>		28. SEX: <b>M</b> RACE: <b>W</b> AGE: <b>61</b> HEIGHT: <b>5'10"</b> WEIGHT: <b>175</b> COLOR OF HAIR: <b>BROWN</b> COLOR OF EYES: <b>BROWN</b> DESCRIBE CLOTHING WORN AND PECULIARITIES:	
<p>34. ADDITIONAL INFORMATION (DO NOT REPEAT INFORMATION LISTED IN NUMBERED BLOCKS)</p> <p>Officers of Unit 317 observed at 0820 at 310 ave P the above truck drive to the rear of this address. The gates to this address were just locked. Officers observed the truck from an adjacent property drive to an area that had a dirt removal shovel used to dig holes. P/O Wayne Smith observed the above suspect pour the contents of fifty five gallon drums into the ground. The contents appeared to be liquid in nature. Unit 301 Lt Nevargis responded and entered the premises after he was not of the situation. Officers were met by Dominick Attanasi who said he was the president of corporation at that location. DJ Trucking And Waste Co. 310 Ave P. This location is presently owned by the Newark Housing Authority. The truck started to drive back to the location where officers were waiting. The truck stopped halfway and officers approached the truck. When we arrived at the truck the driver had fled the area on foot. In the rear of the truck was 55 gallon drums. Officers approached the area where the material was dumped and found a large hole filled with an unknown liquid substance. Officers also observed tire tracks.</p>											
29. ESTIMATED VALUE BY TYPE OF PROPERTY		A. CURRENCY		B. JEWELRY		C. FURS		D. CLOTHING		E. LOCAL AUTOS	
30. OTHER OFFICERS AT SCENE <b>NANA</b>		31. VEH. NO.		32. COMMAND		33. BADGE NO.		34. OTHER REPORTS SUBMITTED		35. TOTAL	
36. PERSONS ARRESTED <b>Dominick J. Attanasi</b>		37. CENT. ARR. NO. <b>23915</b>		38. WITNESSES (NAME AND RESIDENCE)		39. SIGNATURE OF REPORTING OFFICER		40. TELETYPE ALARM NUMBER		41. NAME OF DETECTIVE NOTIFIED	
42. STATUS OF INCIDENT <input checked="" type="checkbox"/> UNFINISHED <input type="checkbox"/> CLEARED BY ARREST <input type="checkbox"/> NOT CLEARED <input type="checkbox"/> EXCEPTIONAL CLEARANCE		43. CLEARED BY ARREST (CHECK APPROPRIATE BOX OR BOXES)		44. ADULT <input type="checkbox"/> JUVENILE <input type="checkbox"/> ADULT AND JUVENILE <input type="checkbox"/> ADULT AND JUVENILE		45. ADULT AND JUVENILE		46. ADULT AND JUVENILE		47. ADULT AND JUVENILE	

## POLICE DEPARTMENT

## CONTINUATION REPORT

NEWARK, N.J.

SPECIFIC OFFENSE		DIST. COMPL. NO.	CENTRAL COMPLAINT NO. 176493
STATUTE OR ORDINANCE (R.S., N.J.S., REV. ORD.)	LOCATION OF OFFENSE	DATE OF OCCURRENCE	

a track that end at the edge of a stream. This stream was polluted with an unknown substance whose source came from the bank at the end of the tire tracks.

There was also various amounts of empty 55 gallon drums laying around the area.

Mr. Walter Janicek of the Newark Department of Engineering responded and took samples from the hole and stream.

A Police photographer responded and took photos of the area.

Mr. Dominick J. Attanasi of 432 Colonial Ave Union N.J. was arrested. He was advised of his rights at the scene and allowed to call his lawyer.

The truck used to dump the material was a 1964 Ford N.J. Reg KDZ45W. This is registered to DJ Trucking, Oil and Waste Co. 310 Ave P. This

AMENDED PROPERTY VALUATION	A. CURRENCY	B. JEWELRY	C. FURS	D. CLOTHING	E. LOCAL AUTO	F. MISCELLANEOUS	G. TOTAL
RANK _____ SIGNATURE OF OFFICER SUBMITTING REPORT _____ COMMAND _____ HAND OFF BY _____							
STATUS OF OFFENSE <input type="checkbox"/> UNCHARGED <input type="checkbox"/> CLEARED BY ARREST <input type="checkbox"/> NOT CLEARED <input type="checkbox"/> EXCEPTIONALLY CLEARED				STATUS OF CASE: <input type="checkbox"/> PENDING ACTIVE <input type="checkbox"/> PENDING INACTIVE <input type="checkbox"/> CLOSED			
Cleared by Arrest ( ) <input type="checkbox"/> JUV <input type="checkbox"/> ADULT <input type="checkbox"/> JUV & ADULT <input type="checkbox"/> NARCOTIC OFFENSE				CLASSIFICATION		RECLASSIFICATION	
READ, CLASSIFIED AND APPROVED BY _____				DATED BY _____		INDEXED BY _____	

**REFERENCE NO. 14**

MEMORANDUM

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO: Acting Director Zelikson

FROM: Bruce Schwartz THRU: Donald A. Brown

SUBJECT: Illegal chemical dump in Newark  
(D & J Trucking, OHMP #77-12-16-4)  
Recommendation for Enforcement Action

DATE: December 27, 1977

On December 15, 1977, Newark Police arrested the president of D & J Trucking and a truck driver employed by the company when they were caught in the act of dumping drummed chemical wastes into a pit dug on the company's leased premises at 310 Avenue P in Newark. See attached file for details.

This was not, it appears, an isolated incident. Inspection by the Passaic-Hackensack Basin, MS&E Element, has determined that the company's premises are seriously contaminated with chemical wastes. A cleanup effort will be necessary, since wastes are leaching into the waters of adjacent Plum Creek. An unknown quantity of chemicals may have been dumped on the site over months or perhaps years. Information available to us at this time indicates that drums have been buried there; that chemicals have been dumped into open pits which have been covered over.

On Tuesday, December 20, Greg Marusevich of the Passaic-Hackensack Basin, in the company of Walter Janicek of the City of Newark Department of Engineering and Lt. Nevarcik of the Newark Police, inspected D & J's premises. He took samples, which have been sent to our Health Dept. labs, and photographs. I expect to receive his report by Dec. 29, and the lab analyses could be ready by Dec. 30.

Joseph Coronato of the Div. of Criminal Justice was informed of the Dec. 15 arrests by me on Dec. 19. He is pursuing the case and has indicated he will undertake criminal prosecution. Because of the need for a cleanup, however, we must proceed with our own enforcement efforts as well. Use of the Spill Fund may be required. Because of the criminal aspect of the case, and also because of the need to coordinate Department and municipal efforts, I feel this case should be referred to Steve Tasher's office at once. 7

The Department apparently has been aware of dumping at D & J since May of 1976, but has unfortunately failed to bring to bear a coordinated enforcement effort. The matter was brought to the attention of the AG's office in May of 1976, but not as a formal referral. The AG's office requested additional information, and Scott McCone of the Office of Special Services inspected the site on February 14, 1977. He found evidence of dumping. No legal action was brought against D & J, however, and the case was referred to the Solid Waste Administration. The SWA appears to have treated 7



December 27, 1977

the matter as a landfill violation; in any event, the cleanup aspects of the problem seem to have been neglected. The SWA on August 30, 1977, issued a Notice of Prosecution to D & J offering to settle violations of the Solid Waste Regulations for \$1,000. The N.O.P. also ordered D & J to cease the disposal of solid waste on the premises and to cover what was there with two feet of cover material. The penalty settlement, I am informed, was paid but the fill requirement was never met, as revealed by SWA inspections on October 25 and December 1. SWA was preparing to send out another NOP (this for \$3,000) when we learned of the December 15 arrests. At my request, Mark McQuerrey, SWA's attorney, agreed to hold off sending it until after we could refer this case to the Attorney General and organize a coherent enforcement effort.

To organize that effort, I recommend that Steve Tasher assign a Deputy to the case at once and have him convene a meeting with all the enforcement agencies concerned. Those are:

- DEP, Water Resources - Office of Hazardous Substances Control,  
Office of Regulatory Affairs
- DEP, Solid Waste Administration
- City of Newark Dept. of Engineering
- City of Newark Housing Authority\*
- Newark Police Department
- Division of Criminal Justice
- Division of Law, Environmental Section

The basic questions which must be resolved are approximately as follows:

A. Investigation and Prosecution - what additional evidence must be assembled for criminal prosecution and for civil litigation? Who shall collect it? What civil remedies shall be pursued? In particular, what relief shall be sought in an action against D & J? Injunction to close their business? Revocation of authority to operate as waste hauler? Injunction to force cleanup? Shall cleanup be commenced with Spill Fund, or should injunctive remedies be pursued first?

B. Cleanup - what is urgency of problem? Should Spill Fund be opened? If so, who will be contracted? Who will supervise? When should effort begin?

\* The Housing Authority owns the land which D & J leases

**REFERENCE NO. 15**

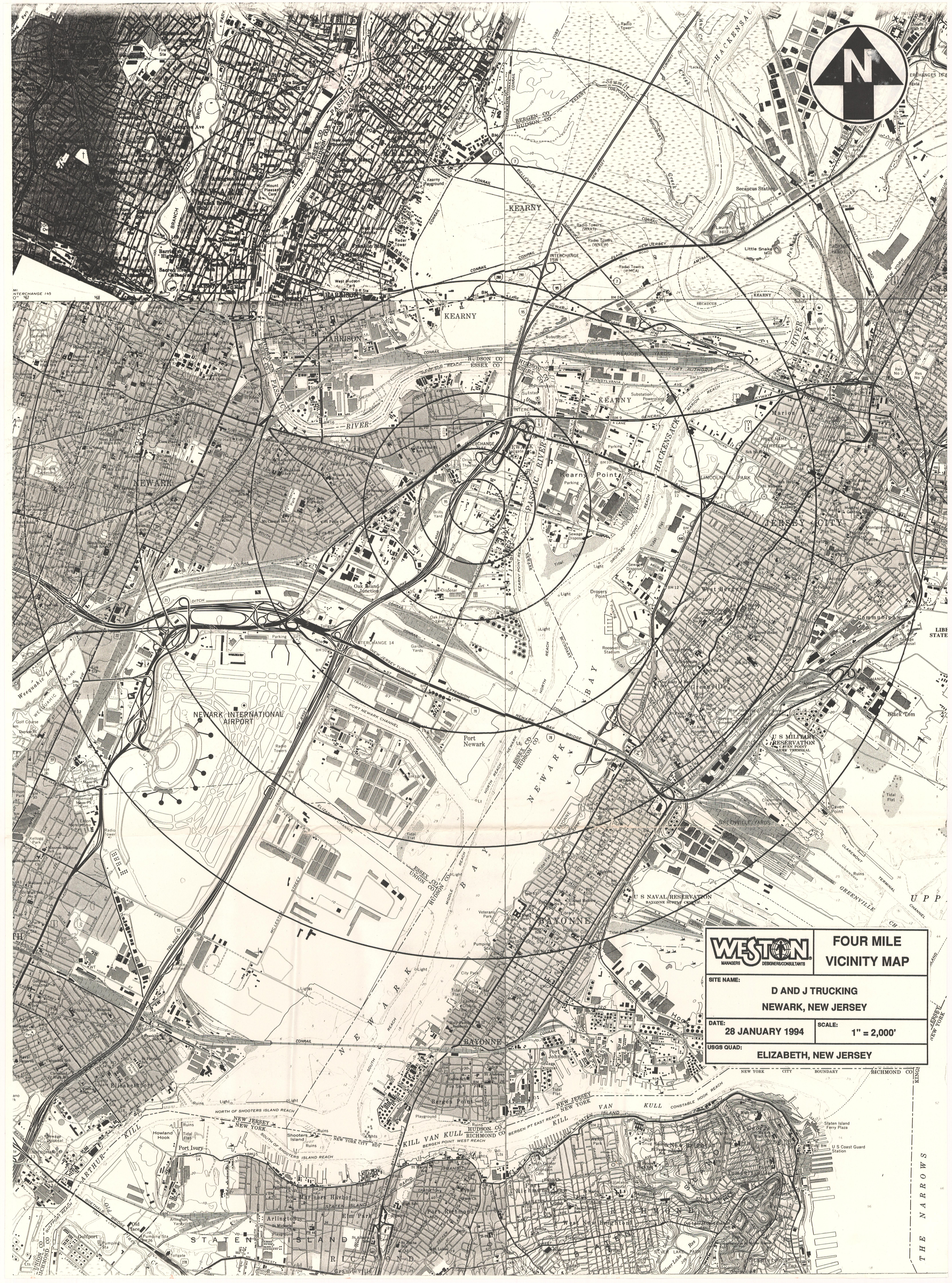




**WESTON**  
MANAGERS DESIGNERS CONSULTANTS

**FOUR MILE  
VICINITY MAP**

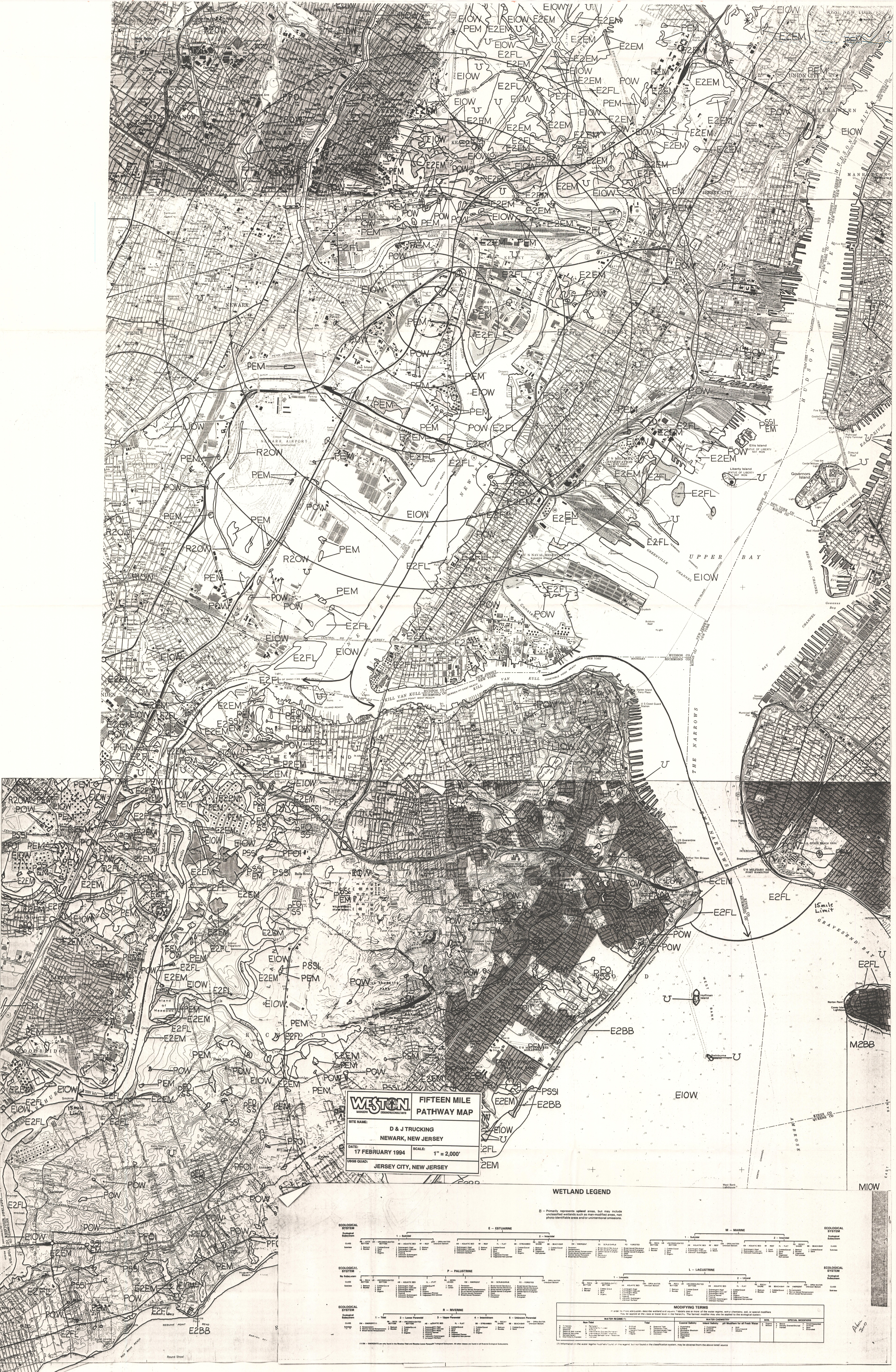
SITE NAME:	
D AND J TRUCKING NEWARK, NEW JERSEY	
DATE:	SCALE:
28 JANUARY 1994	1" = 2,000'
USGS QUAD:	
ELIZABETH, NEW JERSEY	





**REFERENCE NO. 16**







**REFERENCE NO. 17**



Keith Bohrowski  
Originator

## PHONE CONVERSATION RECORD

Conversation with:

Name Frank Peterpaul

Company AFA Pallet Co.

Address 310 Ave P

Newark, NJ

Phone (201) 589-8336

Subject Workers on site

Date 4, Feb, 94

Time 10:50 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 97

Notes:

The site is used occasionally used. Employee occupancy ranges from zero to two.

☐ File \_\_\_\_\_

☐ Tickle File \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

☐ Follow-Up By: \_\_\_\_\_

☐ Copy/Route To: \_\_\_\_\_

Follow-Up-Action: \_\_\_\_\_

Originator's Initials

**REFERENCE NO. 18**



RUN DATE: 11/26/93 13:53:22  
CERCLIS DATA BASE DATE: 11/24/93  
CERCLIS DATA BASE TIME: 16:23:15  
VERSION 3.00

\*\* PROD VERSION \*\*  
U.S. EPA SUPERFUND PROGRAM  
\*\* CERCLIS \*\*  
LIST-8: SITE/EVENT LISTING

PAGE: 83  
CERHELP DATA BASE DATE: N/A  
CERHELP DATA BASE TIME: N/A

SELECTION:  
SEQUENCE: STATE, CNTY CODE, SITE NAME

EVENTS: ALL

EPA ID NO.	SITE NAME STREET CITY COUNTY CODE AND NAME	STATE ZIP CONG DIST.	OPRBL	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD980528962	D & J TRUCKING 310-328 AVE P NEWARK 013 ESSEX	NJ 07105	00	DS1 PA1 SI1			05/01/81 03/01/83 07/01/90	EPA (FUND) EPA (FUND) EPA (FUND)
NJD982181638	DELANCY ST. TRAILER DELANCY ST & AVE P NEWARK 013 ESSEX	NJ 07105	00	RV1 RV2 DS1 PA1 SI1		04/11/86 08/10/86 05/04/87 09/30/92	08/01/86 11/25/86 03/20/87 05/11/87 06/16/93	EPA (FUND) RESP. PARTY EPA (FUND) EPA (FUND) EPA (FUND)
NJD054064142	DIAGNOSTIC ISOTOPES, INC. 225 BELLEVILLE AVE BLOOMFIELD 013 ESSEX	NJ 07003	00	DS1 PA1	NFA		09/18/86 09/18/86 09/29/86	STATE(FUND) STATE(FUND) STATE(FUND)
NJD980528996	DIAMOND ALKALI CO. 80 LISTER AVE NEWARK 013 ESSEX	NJ 07105	00	RS1 RS2 RV1 RV2 DS1 PA1 NP1 NF1 SI1 CR1 AR1 COL RO1 RU1 AS1 CR1		03/30/90 11/17/92 07/28/83 11/29/84 11/01/79 06/01/80 09/08/83 09/21/84 08/01/83 02/15/84 12/13/91 02/15/84 09/30/87 09/30/87 12/14/89 12/01/83 09/30/93	08/24/90 12/04/92 11/29/84 06/30/86 11/01/79 06/01/80 09/08/83 09/21/84 09/01/83 FED ENFORCE OTHER OTHER FED ENFORCE RESP. PARTY EPA (FUND) EPA (FUND)	
NJD002150225	DURALAC CHEMICAL CORP. 84 LISTER AVE. NEWARK 013 ESSEX	NJ 07105	00	DS1 PA1			03/13/89 03/31/89 06/30/89	EPA (FUND) EPA (FUND) EPA (FUND)

RUN DATE: 11/26/93 13:53:22  
CERCLIS DATA BASE DATE: 11/24/93  
CERCLIS DATA BASE TIME: 16:23:15  
VERSION 3.00

\*\* PROD VERSION \*\*  
U.S. EPA SUPERFUND PROGRAM  
\*\* CERCLIS \*\*  
LIST-8: SITE/EVENT LISTING

PAGE: 83  
CERHELP DATA BASE DATE: N/A  
CERHELP DATA BASE TIME: N/A



Document Control No.: 4200-16-ADNW

**FINAL DRAFT  
SITE INSPECTION PRIORITIZATION REPORT  
D AND J TRUCKING  
NEWARK, NEW JERSEY**

Volume 2 of 2

**CERCLIS I.D. No.: NJD0980528962**

28 February 1994

W.O. No.: 04200-016-081-0097

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

Prepared by:

**ROY F. WESTON, INC.**  
Raritan Plaza I  
4th Floor  
Raritan Center  
Edison, New Jersey 08837

**REFERENCE NO. 19**

# LEVEL I SITE INSPECTION REPORT

## PART I: SITE INFORMATION

1. Site Name/Alias D. and J. Trucking/D. & J. Trucking and Waste Co., Inc.  
Street 310-336 Avenue P  
City Newark State New Jersey Zip 07105
2. County Essex County Code 13 Cong. Dist. 10
3. EPA ID No. NJD980528962
4. Block No. 5060 Lot No. 149
5. Latitude 40° 43' 25" N Longitude 74° 07' 46" W  
USGS Quad. Elizabeth, New Jersey
6. Owner Housing Authority of the City of Newark Tel. No. (201) 430-2430  
Street 57 Sussex Avenue  
City Newark State New Jersey Zip 07103
7. Operator AFA Pallet Co., Inc. Tel. No. (201) 589-8336  
Street 514 Doremus Avenue  
City Newark State New Jersey Zip 07105
8. Type of Ownership  
☐ Private ☐ Federal ☐ State  
☐ County ☒ Municipal ☐ Unknown ☐ Other \_\_\_\_\_
9. Owner/Operator Notification on File  
☐ RCRA 3001 Date \_\_\_\_\_ ☐ CERCLA 103c Date \_\_\_\_\_  
☐ None ☒ Unknown
10. Permit Information
- | Permit     | Permit No.  | Date Issued    | Expiration Date | Comments                                   |
|------------|-------------|----------------|-----------------|--|
| <u>SWA</u> | <u>2683</u> | <u>Unknown</u> | <u>Unknown</u>  | <u>Registration</u><br><u>revoked 1978</u> |

11. Site Status

☐ Active ☒ Inactive ☐ Unknown

12. Years of Operation 1923 to 1978

13. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Unit Type	Facility Name for Unit
1	Drum/Paint Container	Container
2	Pit	Pit

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

The D. and J. Trucking site is located in a heavily industrialized area of Newark, Essex County, New Jersey. The site is approximately 3.5 acres in size. Available background information indicates industrial activities were associated with the site prior to the purchase of the parcel by D. and J. Trucking and Waste Co., Inc. A dye/chemical company may have previously operated at the site. The quantity and type of process waste generated by this facility is unknown. Background information also does not indicate whether any materials were placed in storage tanks, or if these tanks were excavated and removed from the site when the factory was demolished. Illegal dumping of chemical wastes has occurred on site. A specific incident involving disposal of chemical wastes occurred on December 15, 1977. The Newark Police Department observed the illegal dumping of chemical wastes from 55-gallon drums into an unlined pit. Analysis of samples taken from the pit by the Passaic Valley Sewerage Commissioners indicated the waste was of a hazardous and flammable nature. There are no other known documented incidents of miscellaneous spills or dumping of liquid hazardous substances on site. The site has also operated as a junk-scrap yard. Solid wastes disposed on the property consist of construction debris, used tires, used commercial vehicles, paint cans, 55-gallon drums, roof shingles, and other debris. Hazardous substances suspected to be present in the soil and drainage ditch surface water/sediments of the site are base/neutral organic compounds, volatile organics, heavy metals, and petroleum hydrocarbons. These contaminants may be attributable to the illegal disposal activities conducted by D. and J. Trucking at the site.

14. Information available from

Contact Amy Brochu Agency U.S. EPA Tel. No. (201) 906-6802  
Preparer Dorothy Ponte Agency NUS Corp. Region 2 FIT Date 09/26/90

## PART II: WASTE SOURCE INFORMATION

The D. and J. Trucking Site is located in a heavily industrialized area of Newark, Essex County, New Jersey. The site is approximately 3.5 acres in size. A preliminary site investigation of the area performed by Louis Berger and Associates, Inc., identified two areas of waste disposal on the D. and J. Trucking Site. One area is located along the property's northeastern perimeter. The other waste disposal area encompasses a large portion of the parcel and is located towards the rear of the property (Ref. Nos. 3, 8). A 1978 aerial photograph of the site obtained from Robinson Aerial Surveys reveals what appears to be drums or large containers scattered in various sections of the latter waste disposal area. Some of these drums/containers appear to be partially buried near the drainage ditch by the southern corner of the property (Ref. Nos 3, 40). During the 1970s there were several accounts of illegal dumping at the site as well as other properties in the area involving D. and J. Trucking and Waste Co., Inc. The New Jersey Department of Environmental Protection (NJDEP) and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Much of the paint and associated paint products (varnish, lacquer, and solvents) discarded at the site may have been derived from Benjamin Moore & Co. and Sherwin-Williams Co. D. and J. Trucking had a disposal contract with these two paint manufacturers (Ref. Nos. 3, 6, 18, 20). On December 15, 1977, the president of D. and J. Trucking and Waste Co., Inc. and a truck driver were apprehended by the Newark police while in the act of dumping liquid chemical waste from 55-gallon drums into a pit on site. The police officers also observed 55-gallon drums in the rear of the abandoned truck and several empty 55-gallon drums scattered along the edge of the property's drainage ditch. The surface water of the ditch appeared polluted, and in the opinion of the officers this was attributable to the dumped contents of the drums. Subsequently, an administrative order was issued to the company in 1978 by the NJDEP revoking its authority to collect and haul solid waste in the State of New Jersey (Ref. Nos. 17, 18, 19). No known means of containment or diversion systems were used to contain potential spills and leaks from waste containers discarded at the site. The quantity of waste dumped at the site and into the unlined pit on the property is unknown (Ref. No. 41). A recent site investigation conducted by NUS Corporation Region 2 FIT was unable to ascertain the location of the waste pit (Ref. No. 2). The history of other properties in the Newark area owned by D. and J. Trucking and Waste Co., Inc. indicates improperly contained, incompatible, or highly reactive chemicals may be buried in drums beneath the D. and J. Trucking Site. A fire and explosion resulted when red phosphorous and numerous drums of flammable hazardous wastes were unearthed at the nearby Avenue P Site during remediation of a former property of the waste hauling firm ( Ref. No. 3). The exact quantity of waste on site is unknown.

There is potential for direct contact with hazardous substances on site. A locked entrance gate can easily be pushed open by removing wire which holds the gate to the property's northwestern fenced perimeter. The southeastern fenced perimeter has a large hole in it which allows access to the

property. A transient claims he lives on the premises. The site is mostly devoid of vegetation. Therefore, there is potential for humans and animals to come in direct contact with exposed contaminated surface soil and airborne contaminated soil particulates at the site ( Ref. No. 2). Figures 1 and 2 provide a Site Location Map and Site Map, respectively.

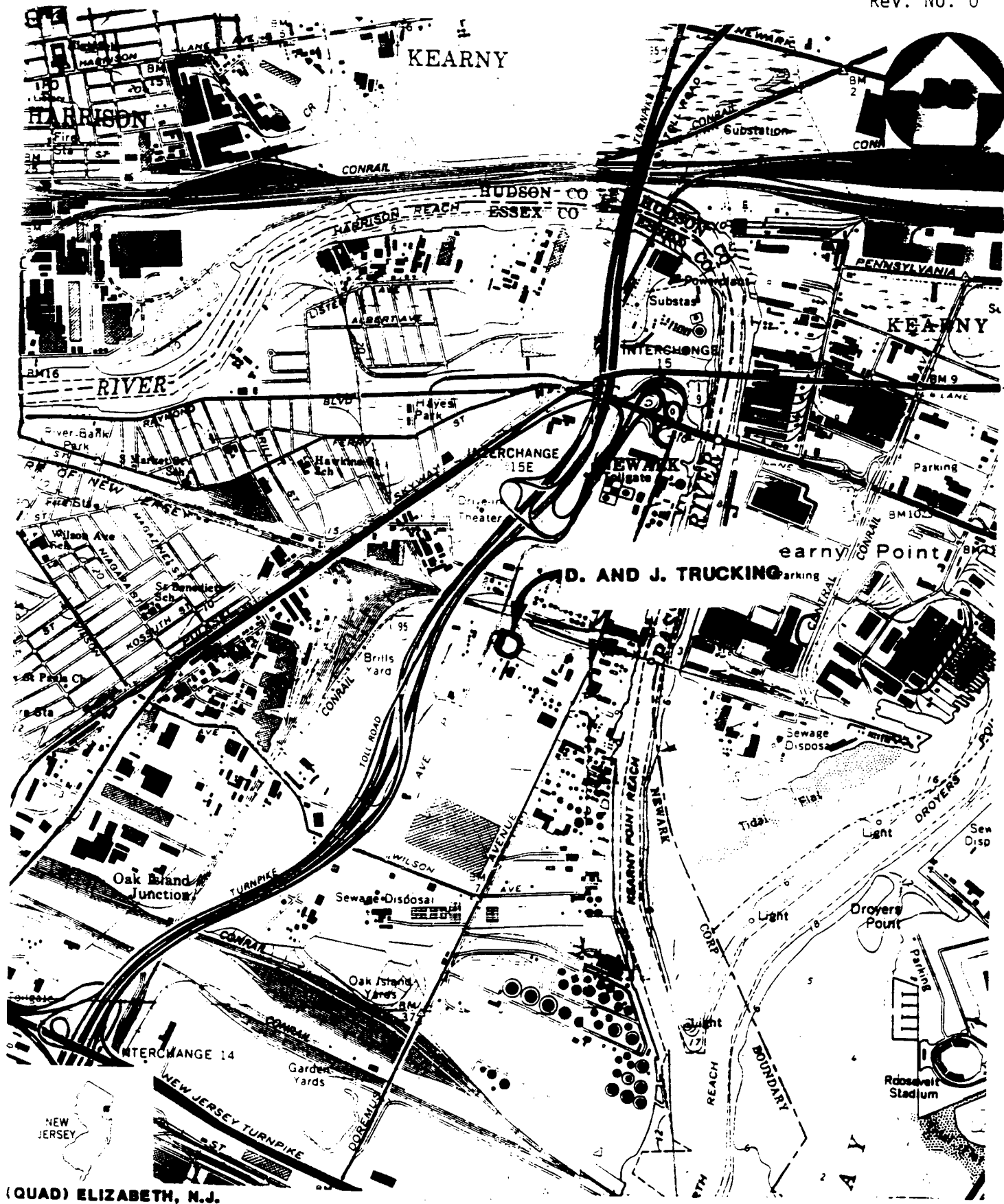
### **PART III: PRE-EXISTENT ANALYTICAL DATA**

Previously collected analytical data are no longer available. The site was sampled by the City of Newark Department of Engineering on December 15, 1977, following the illegal disposal of chemical wastes on site. Results of an analysis by the Passaic Valley Sewerage Commissioners indicated the liquid waste was of a hazardous and flammable nature. The number of samples collected and the parameters for which these samples were analyzed is unknown. The location of the pit on the property is also unknown (Ref. Nos. 15 through 18).

### **PART IV: SITE INSPECTION SAMPLE RESULTS**

NUS Corporation Region 2 FIT conducted sampling at the D. and J. Trucking Site on Tuesday June 26, 1990. A total of 14 environmental samples were collected and included three surface water, two sediment, and nine soil samples. Table 1 presents a summary of the analytical data. Figure 3 provides a Sample Location Map. Samples were analyzed under the Contract Laboratory Program (CLP) for Target Compound List (TCL) contaminants, excluding cyanide. A complete presentation of the analytical results can be found in Reference Number 1. Soil samples were collected to assess potential overland and downward migration of contaminants at the site, and to attempt to locate a former buried pit. Surface water/sediment samples were collected from a drainage ditch which runs parallel to the southwestern border of the property in order to assess the potential for a release of contaminants to surface water. Samples were collected to determine whether a release of contaminants at the site could be attributed to previous activities at the facility involving hazardous materials, and to assess whether a potential exists for direct contact with these contaminants.

A review of the organic data package and sampling trip report indicates the D. and J. Trucking Site should be resampled. Successful analysis was complicated by the highly organic nature of the soil samples. Most of the organic data results were therefore questionable. Many holding times were exceeded on the soil analyses, and several matrix spike recoveries were outside of recovery limits. The laboratory attributed these problems to the sample matrix. Identification of multipeak target chemicals was also difficult due to interferences. Repeat analyses of samples yielded



## SITE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

**SCALE: 1" = 2000'**

### FIGURE 1



**NUS**  
CORPORATION





TABLE 1

SITE NAME: D & J TRUCKING  
 TDD#: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407  
 LAB NAME: CHENTECH

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

## INORGANICS

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SE1	NJGG-SE2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	MBDD81	MBDD82	MBDD83	MBDD84	MBDD85	MBDD86	MBDD87	MBDD88	MBDD90	MBDD91	MBDD92
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	275	427 E	3210 E	1380	6550 E	5590	8120	3120	10100	8440	8770
Antimony			J		55.9 E						J
Arsenic	15.5 E	21.6 E	36 E	12.1 E	61.2 E	12.5 E	14.8 E	9.9 E	12.9 E	36.4 E	111 E
Barium	284	J	350	392	304 E	111	287	61.2	335	159	181
Beryllium							J				12.4 E
Cadmium			15.6 E		8.8 E						
Calcium	134000	87100	119000	360000	76600 E	8270	3920	19700	21500	7160	10200
Chromium	R	R	112 E	37.8	236 E	15.7	54.3	163	42.2	47.4	81.6
Cobalt					J	J	J	J	J	J	13.2
Copper	53.7	53.4 E	302 E	43.7 E	613 E	223 E	62.2 E	130 E	104 E	123 E	166 E
Iron	3210	6830 E	25400 E	8750	46600 E	15300	17900	8910	22700	22500	22200
Lead		99 E	689 E	126	863 E	378	392	276	461	439	453
Magnesium	19200	18300	20600	4600	5490 E	1680	2010	5770	6650	3390	4280
Manganese	574	519	822	498	518 E	425	219	137	3.4	322	397
Mercury			0.57 E	0.51	1.1 E	0.39	0.81	0.84	2.5	1	1.2
Nickel	J	J	92.5 E	17.9 E	133 E	20 E	17.7 E	405	30.9 E	30 E	45.9
Potassium	55000	J	J		J	J	J		1280	J	J
Selenium				R	R	R	R	R	R	R	R
Silver											
Sodium	267000 E	161000 E	151000 E	J	2740 E	J	J	J	J	J	J
Thallium											
Vanadium	J	J	117 E	21.6	98.9 E	20.8	25.3	J	49.2	38.1	32.3
Zinc	138	244 E	1330 E	210	2930 E	438	265	165	373	380	642

## NOTES:

Blank space - compound analyzed for but  
 not detected

E - estimated value

J - estimated value, compound present  
 below CRDL but aboveIDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

TABLE 1 (Cont'd)

SITE NAME: D. & J. TRUCKING  
 T000: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407  
 LAB NAME: CHEMTECH

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

## INORGANICS

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	MBDD97	MBDD94	MBDD95	MBDD97	MBDD98	MBDD99	MBCY64	N/A
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	N/A
Units	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7970	5850	11200	J				NR
Antimony	25.3 E	27.8 E	39.9 E					NR
Arsenic	13.4 E	21.5 E	27.3 E					NR
Barium	367	555	715					NR
Beryllium								NR
Cadmium	7.6	2.3	4.9					NR
Calcium	19900	23200	12000					NR
Chromium	167	74.6	259	11.2 E	J			NR
Cobalt	J	J	15.7					NR
Copper	222 E	125 E	364 E					NR
Iron	21200	15300	47200	136	J			NR
Lead	1270	619	1750	3.4 E		3.7 E	J	NR
Magnesium	2810	5280	3680					NR
Manganese	365	305	365					NR
Mercury	2.1	2	2.3					NR
Nickel	58.3	26.2 E	118					NR
Potassium	J	J	1700					NR
Selenium	R	R	R					NR
Silver	J	J						NR
Sodium	J	J	J					NR
Thallium								NR
Vanadium	37	28.5	90.8					NR
Zinc	934	561	1050				J	NR

## NOTES:

Blank space - compound analyzed for but  
 not detected

E - estimated value

J - estimated value, compound present  
 below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY

VOLATILES	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Sample ID No.	BE267	BE268	BE269	BE270	BE271	BE272	BE273	BE274	BE276	BE277	BE278
Traffic Report No.											
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											
Acetone	54	44	48	110 E							
Carbon Disulfide		J		40	19 E		23 E			72 E	42 E
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone								R	R		
1,1,1-Trichloroethane											
Carbon Tetrachloride											
Vinyl Acetate											
Bromodichloromethane											
1,2-Dichloropropane											
cis-1,3-Dichloropropene											
Trichloroethene											
Dibromochloromethane											
1,1,2-Trichloroethane											
Benzene					37 E						
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene								J	6 E		
Toluene	J	J	J	29 E	120 E	J					
1,1,2,2-Tetrachloroethane											
Chlorobenzene					520 E	8 E					
Ethylbenzene		J		32 E	4000 E	31 E					
Styrene											
Xylenes (Total)	J	25	22	160 E	12000 E	47 E					

## NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

NAME: J 1  
 ID#: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1	1
Percent Moisture	24	30	23	--	--	--	--	--

Chloromethane						J	J	J
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide	21 E	14 E						
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene (total)								
Chloroform				J		J	J	
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene	J		87 E					
Toluene	42 E	130 E	J					
1,1,2,2-Tetrachloroethane								
Chlorobenzene								
Ethylbenzene	8 E	J						
Styrene								
Xylenes (Total)	120 E	8 E						

NOTES:

Blank space - compound analyzed for but not detected

8 - compound found in lab blank as well as sample, indicates possible/probable blank contamination

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TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES											
Sample ID No.	MJGG-SW1(MS/MSD)	MJGG-SW2	MJGG-SW3(DUP)	MJGG-SED1	MJGG-SED2	MJGG-S1(MS/MSD)	MJGG-S2	MJGG-S3	MJGG-S5	MJGG-S6	MJGG-S7(DUP)
Traffic Report No.	BE167	BE168	BE169	BE170	BE171	BE172	BE173	BE174	BE176	BE177	BE178
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Pentachlorophenol			R								R
Phenanthrene			R	J	J	1400	1200	2000	J	980	R
Anthracene			R	J	J	J	J	J	J	J	R
Di-n-butylphthalate			R	J					J		R
Fluoranthene			R	2100	J	2500	1500	2200	1600 E	2200	R
Pyrene			R	1900	J	1900	1200	1400	1700 E	1900	R
Butylbenzylphthalate			R	J	J				J	J	R
3,3'-Dichlorobenzidine			R								R
Benzo(a)anthracene			R	J	J	1200	J	J	830 E	1000	R
Chrysene			R	J	J	1400	J	810	840 E	1000	R
bis(2-Ethylhexyl)phthalate	J	38	J	2100	24000	J	J	J	7200 E	J	R
Di-n-octylphthalate			R		J				J		R
Benzo(b)fluoranthene			R	J	J	2800	790	J	1300 E	1300	R
Benzo(k)fluoranthene			R	J	J	1400 E	J	1100 E	1100 E	940	R
Benzo(a)pyrene			R	J	J	1400	J	780	1100 E	1200	R
Indeno(1,2,3-cd)pyrene			R	J		J	J	J	J	J	R
Dibenz(a,h)anthracene			R			J					R
Benzo(g,h,i)perylene			R			J	J			J	R

NOTES:

Blank space - compound analyzed for but not detected  
 B - compound found in lab blank as well as sample, indicates possible/probable blank contamination  
 E - estimated value  
 J - estimated value, compound present below CRQL but above IDL  
 R - analysis did not pass EPA QA/QC  
 M - Presumptive evidence of the presence of the material  
 NR - analysis not required  
 Detection limits elevated if Dilution factor >1 and/or percent moisture >0%

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J TRU  
 02-9005-05  
 SAMPLING DATE: 6/26/90  
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TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BE267	BE268	BE269	BE270	BE271	BE272	BE273	BE274	BE276	BE277	BE278
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Phenol			R								R
bis(2-Chloroethyl)ether			R								R
2-Chlorophenol			R								R
1,3-Dichlorobenzene			R		J						R
1,4-Dichlorobenzene			R		J						R
Benzyl alcohol			R								R
1,2-Dichlorobenzene			R		2500						R
2-Methylphenol			R								R
bis(2-Chloroisopropyl)ether		J	R								R
4-Methylphenol			R								R
N-Nitroso-di-n-dipropylamine			R		J						R
Hexachloroethane			R								R
Nitrobenzene			R								R
Isophorone			R							J	R
2-Nitrophenol			R								R
2,4-Dimethylphenol			R								R
Benzoic acid	J	J	R								R
bis(2-Chloroethoxy)methane			R								R
2,4-Dichlorophenol			R								R
1,2,4-Trichlorobenzene			R								R
Naphthalene			R		4400	J					R
4-Chloroaniline			R								R
Hexachlorobutadiene			R								R
4-Chloro-3-Methylphenol			R								R
2-Methylnaphthalene			R		J						R
Hexachlorocyclopentadiene			R								R
2,4,6-Trichlorophenol			R								R
2,4,5-Trichlorophenol			R								R
2-Chloronaphthalene			R								R
2-Nitroaniline			R								R
Dimethylphthalate			R								R
Acenaphthylene			R	J					J	J	R
2,6-Dinitrotoluene			R								R
3-Nitroaniline			R								R
Acenaphthene			R				J	J			R
2,4-Dinitrophenol			R								R
4-Nitrophenol			R								R
Dibenzofuran			R				J				R
2,4-Dinitrotoluene			R								R
Diethylphthalate			R		J		J		J	J	R
4-Chlorophenyl-phenyl ether			R								R

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TABLE 1 (Cont'd)

SAMPLING DATE: 6/26/90

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SITE INSPECTION SAMPLE RESULTS  
D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY

## SEMI-VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	BE279	BE280	BE281	BE283	BE284	BE285	BE286	BE287
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
Phenol								NR
bis(2-Chloroethyl)ether								NR
2-Chlorophenol								NR
1,3-Dichlorobenzene								NR
1,4-Dichlorobenzene								NR
Benzyl alcohol								NR
1,2-Dichlorobenzene								NR
2-Methylphenol								NR
bis(2-Chloroisopropyl)ether								NR
4-Methylphenol								NR
N-Nitroso-di-n-dipropylamine								NR
Hexachloroethane								NR
Nitrobenzene								NR
Isophorone								NR
2-Nitrophenol								NR
2,4-Dimethylphenol								NR
Benzoic acid								NR
bis(2-Chloroethoxy)methane								NR
2,4-Dichlorophenol								NR
1,2,4-Trichlorobenzene								NR
Naphthalene								NR
4-Chloroaniline								NR
Hexachlorobutadiene								NR
4-Chloro-3-Methylphenol								NR
2-Methylnaphthalene								NR
Hexachlorocyclopentadiene								NR
2,4,6-Trichlorophenol								NR
2,4,5-Trichlorophenol								NR
2-Chloronaphthalene								NR
2-Nitroaniline								NR
Dimethylphthalate								NR
Acenaphthylene								NR
2,6-Dinitrotoluene								NR
3-Nitroaniline								NR
Acenaphthene								NR
2,4-Dinitrophenol								NR
4-Nitrophenol								NR
Dibenzofuran								NR
2,4-Dinitrotoluene								NR
Diethylphthalate								NR
4-Chlorophenyl-phenyl ether								NR



SITE NAME: D & J TRUCKING  
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TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A

Pentachlorophenol								NR
Phenanthrene	J	65000 E	J					NR
Anthracene	J	J						NR
Di-n-butylphthalate								NR
Fluoranthene	J	99000 E	J					NR
Pyrene	J	55000 E	J					NR
Butylbenzylphthalate	J							NR
3,3'-Dichlorobenzidine								NR
Benzo(a)anthracene	J	J	J					NR
Chrysene	J	30000 E						NR
bis(2-Ethylhexyl)phthalate	51000 E	J	J					NR
Di-n-octylphthalate	J							NR
Benzo(b)fluoranthene	J	38000 E						NR
Benzo(k)fluoranthene	J	J						NR
Benzo(a)pyrene		J						NR
Indeno(1,2,3-cd)pyrene		J						NR
Dibenz(a,h)anthracene								NR
Benzo(g,h,i)perylene		J						NR

NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CRQL but aboveIDL

R - analysis did not pass EPA QA/QC

M - Presumptive evidence of the presence of the material

NR - analysis not required

Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

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TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
 D. AND J. TRUCKING  
 NEWARK, ESSEX COUNTY, NEW JERSEY

PESTICIDES	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Sample ID No.	BE279	BE280	BE281	BE283	BE284	BE285	BE286	BE287
Traffic Report No.	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Matrix	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Units	1	1	1	1	1	1	1	N/A
Dilution Factor/GPC Cleanup (Y)	24	30	23	--	--	--	--	N/A
Percent Moisture								
alpha-BHC	28 E	42 E	11 E					NR
beta-BHC	730 E	330 E	88 E					NR
delta-BHC	100 E							NR
gamma-BHC (Lindane)								NR
Heptachlor	110 E			R	R	R	R	NR
Aldrin				R	R	R	R	NR
Heptachlor epoxide								NR
Endosulfan I								NR
Dieldrin				R	R	R	R	NR
4,4'-DDE	1800 E	560 E						NR
Endrin			39 E	R	R	R	R	NR
Endosulfan II	2900 E	430 E	120 E					NR
4,4'-DDD	330 E	130 E	54 E					NR
Endosulfan sulfate			50 E					NR
4,4'-DDT		110 E						NR
Methoxychlor								NR
Endrin ketone								NR
alpha-Chlordane		410 E						NR
gamma-Chlordane		300 E						NR
Toxaphene								NR
Aroclor-1016								NR
Aroclor-1221								NR
Aroclor-1232								NR
Aroclor-1242								NR
Aroclor-1248								NR
Aroclor-1254		5200 E						NR
Aroclor-1260	37000 E		1800 E					NR

NOTES:

- Blank space - compound analyzed for but not detected
- B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
- E - estimated value
- J - estimated value, compound present below CRQL but above IDL
- R - analysis did not pass EPA QA/QC
- N - Presumptive evidence of the presence of the material
- NR - analysis not required

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS  
D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY

## PESTICIDES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BE167	BE168	BE169	BE170	BE171	BE172	BE173	BE174	BE176	BE177	BE178
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
alpha-BHC		0.08						330 E			
beta-BHC		1.2	0.46	42 E			17 E	2300 E		51 E	66 E
delta-BHC								99 E			
gamma-BHC (Lindane)								15 E			
Heptachlor	R										
Aldrin	R										
Heptachlor epoxide											
Endosulfan I											
Dieldrin	R						100 E	39 E			
4,4'-DDE		0.48	0.18	67 E			21 E	180 E	190 E	45 E	60 E
Endrin	R									J	24 E
Endosulfan II		0.26		58 E							
4,4'-DDD		0.72	0.13	36 E	1600 E			2300 E	52 E	35 E	67 E
Endosulfan sulfate											
4,4'-DDT							75 E	420 E	39 E		26 E
Methoxychlor											
Endrin ketone											
alpha-Chlordane		J						J	360 E		
gamma-Chlordane		J			440 E			J	350 E	J	
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254											
Aroclor-1260											

## NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CROL but above IDL

R - analysis did not pass EPA QA/QC

N - Presumptive evidence of the presence of the material

NR - analysis not required

conflicting results; this was attributed to a lack of homogeneity between sample aliquots. The site appears to be contaminated with a complex mixture of organic chemicals. However, more conclusive data are required to correctly identify the contaminants. The only data evaluated for the D. and J. Trucking Site will be the inorganic data results (Ref. No. 1). Many soil samples were collected by means of augering through several feet of wood chips on site, causing possible cross-contamination (Ref. No. 2).

**PART V: HAZARD ASSESSMENT****GROUNDWATER ROUTE**

1. Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.

There is potential for release of contaminants to the groundwater. Liquid contents of 55-gallon drums were emptied into an unlined pit at the site. No diversion or containment structures were in place to contain the waste. Analysis of samples taken from the pit in 1977 indicated the illegally disposed wastes were of a hazardous and flammable nature.

On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the soil samples identified two areas of inorganic contamination on site. Notable concentrations of arsenic, barium, chromium, vanadium, zinc, and lead were detected along the site's northeastern perimeter towards the rear of the property. Surface soil sample NJGG-S10 detected some of the highest concentrations of these contaminants with zinc at 1,050 mg/kg, chromium at 259 mg/kg, vanadium at 90.8 mg/kg, lead at 1,750 mg/kg, and copper at an estimated 364 mg/kg. Surface soil sample NJGG-S8 detected barium at 767 mg/kg. During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Lead and zinc may be attributed to the paint products discarded at the site. A second area of concern is located near the western corner of the property at subsurface soil sample NJGG-S3, where nickel was detected at a notable concentration of 405 mg/kg. During the 1970s, D and J Trucking and Waste Co., Inc. also disposed of ferrous and nonferrous smelting wastes at other sites at which it operated in the Newark area. Nickel may be attributed to smelting wastes discarded at the site by the waste hauling firm. Other soil samples collected from the site and analyzed under the Contract Laboratory Program for Target Compound List contaminants also detected the aforementioned inorganic contaminants. However, the concentrations detected were notably lower than those encountered at the two cited soil sample locations.

Ref. Nos. 1, 2, 3, 15 through 18, 33, 36, 39, 40

2. Describe the aquifer of concern; include information such as depth, thickness, geologic composition, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.

The aquifer of concern is the Passaic Formation, previously known as the Brunswick Formation, and specifically the Newark Group Brunswick Shale in the region surrounding the site. The Passaic Formation consists of red argillaceous shale with interfingering local beds of fine-grained red sandstone; siltstone; and black, gray, or greenish shale. The Passaic Formation in the Newark area varies in thickness and may reach over 6,000 feet thick. Depth to the Passaic Formation in the vicinity of the site is approximately 50 feet. Groundwater is stored in a network of interconnected openings formed along near-vertical and bedding-plane joints and fractures, and in the available pore spaces present in the Passaic. Deposits overlying the bedrock consist of a mixture of unconsolidated glacial till and stratified drift, varved silt and clay, sand, and gravel. A 8- to 14-foot semiconfining layer of silty clay separates the surficial and bedrock aquifers in lowland areas of Newark. In the vicinity of the site this confining layer is not continuous. Therefore, the surficial and bedrock aquifers are hydraulically connected near the site. Groundwater movement in the upper unconfined aquifer of the Passaic Formation is tidally influenced, affected by local topography, and tends to flow in an easterly direction near the site. Most wells in the region are tapped into the extremely fractured upper portion of the aquifer, which is under modified water table conditions. Water

in this portion tends to move in any direction and is influenced by factors affecting recharge and discharge. Depth to the water table near the site is approximately 10 feet.

Ref. Nos. 14, 29 through 33, 36, 42

**3. Is a designated sole source aquifer within 3 miles of the site?**

There is no sole source aquifer within 3 miles of the site.

Ref. Nos. 30, 36

**4. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

The depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern is approximately 4 feet. The lowest point of waste storage is assumed to be 6 feet below ground surface, since the depth of the waste pit is unknown. The highest seasonal level of the saturated zone is estimated to be approximately 10 feet below ground surface.

Ref. Nos. 2, 3, 17, 18, 29, 33, 36

**5. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the aquifer of concern?**

The least permeable stratum above the aquifer of concern is the unconsolidated deposits. These deposits consist of a mixture of glacial till and stratified drift, varved silt and clay, sand, and gravel. The permeability of these deposits is  $10^{-5}$  to  $10^{-7}$  cm/sec.

Ref. Nos. 3, 29, 32, 33, 36

**6. What is the net precipitation for the area?**

The net annual precipitation for the region is approximately 13 inches.

Ref. No. 34

**7. Identify uses of groundwater within 3 miles of the site (i.e., private drinking source, municipal source, commercial, industrial, irrigation, unusable).**

Groundwater within 3 miles of the site is used for commercial and industrial purposes. Due to saltwater intrusion and contamination from several potential sources in the region, groundwater within 3 miles of the site is not used by municipally owned water service companies as a source of potable water for the public supply distribution network. Potable water is presently supplied to the City of Newark from reservoirs located in the Pequannock watershed of northern Passaic County. Jersey City receives its potable water supply from the Boonton and Split Rock reservoirs located in Morris County. These reservoirs are located more than 3 miles upstream of the site.

Ref. Nos. 3, 11 through 15, 31, 33, 36

8. What is the distance to and depth of the nearest well that is currently used for drinking or irrigation purposes?

The nearest known well that draws potable water from the aquifer of concern is located in Biase's Restaurant approximately 4 miles northwest of the site. The well is about 170 feet deep. Biase's Restaurant has a seating capacity of 600 and currently employs around 10 individuals. Water from this well is used as a drinking source.

Ref. Nos. 11, 12, 14, 36

9. Identify the population served by the aquifer of concern within a 3-mile radius of the site.

Groundwater from the aquifer of concern is not used for potable purposes within 3 miles of the site.

Ref. Nos. 11 through 14, 25, 33, 36

#### **SURFACE WATER ROUTE**

10. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminants to the facility.

There is potential for release of contaminants to surface water. No liner or diversion system was used to contain potential spills and leaks of hazardous materials disposed of on site. Contaminants known or suspected to be present in the property's soil and surface drainage ditch water/sediments are base/neutral organic compounds, volatile organics, heavy metals pesticides, and petroleum hydrocarbons. Heavy metal contaminants may have been constituents of paint disposed of on site. During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Chromium, vanadium, lead, and zinc may be attributed to the paint products discarded at the site. Other contaminants may be attributable to illegal disposal practices involving hazardous materials on site. The site is located within a 100-year flood zone. Flooding results from tidal surges of the Atlantic Ocean and from storm runoff.

On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the surface water/sediment samples identified an area of inorganic sediment contamination in the drainage ditch near the property's southern corner. Sediment sample NJGG-SED2 detected lead, chromium, copper, vanadium, and zinc at estimated concentrations of 863 mg/kg, 236 mg/kg, 613 mg/kg, 98.9 mg/kg, and 2,930 mg/kg, respectively. These same contaminants were detected at lower concentrations at sediment sample NJGG-SED1: zinc was detected at 210 mg/kg, chromium at 37.8 mg/kg, vanadium at 21.6 mg/kg, lead at 126 mg/kg, and copper at an estimated 43.7 mg/kg. Surface water samples were also collected from the same sample locations as the sediment samples. The field duplicate pairs for the water matrix collected above sediment sample NJGG-SED2 produced absolute concentration differences. Zinc was detected at an estimated notable concentration of 1,330 ug/L at surface water sample NJGG-SW3. The corresponding field duplicate NJGG-SW2 detected an estimated concentration of 244 ug/L. These differences were attributed to a lack of laboratory analytical precision and not to poor sampling procedures. Surface water sample NJGG-SW1, collected from the same location as NJGG-SED1, detected zinc at a concentration of 138 ug/L. There appears to be a trend in the detection of lower concentrations of all inorganic Target Compound List contaminants at this location as compared with those encountered in the drainage ditch near the property's southern corner. However, samples collected from the tidally influenced drainage ditch cannot be categorized as either upgradient or downgradient environmental samples. During the site investigation conducted on June 26, 1990, the surface water drainage flow could not be determined as the water appeared stagnant.

The drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek and eventually flows to Newark Bay. Besides experiencing tidal influences, surface water flow in the drainage ditch near the site may be influenced by storm runoff from properties located to the south. These properties have drainage ditches which also connect with the manmade ditch system near the southern corner of the D and J Trucking Site. Surface drainage patterns from these properties could influence the direction of flow in the drainage ditch located along the southwestern border of the D and J Trucking Site. Nevertheless, inorganic contaminants detected in the surface water/sediments of the drainage ditch near the site are the same as those detected in notable concentrations in the soil of the site.

Ref. Nos. 1, 2, 3, 6, 15 through 19, 24, 36, 40

11. Identify and locate the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.

The nearest downslope surface water is a drainage ditch located along the southwestern border of the property. This drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek. Surface water runoff from the site would migrate overland to this drainage ditch, eventually enter Plum Point Creek, and subsequently flow into Newark Bay located approximately 0.5 mile to the east.

Ref. Nos. 2, 3, 6, 17, 36

12. What is the facility slope in percent? (Facility slope is measured from the highest point of deposited hazardous waste to the most downhill point of the waste area or to where contamination is detected.)

The facility slope is less than 3 percent.

Ref. Nos. 2, 15, 17, 36

13. What is the slope of the intervening terrain in percent? (Intervening terrain slope is measured from the most downhill point of the waste area to the probable point of entry to surface water.)

The slope of the intervening terrain is less than 3 percent.

Ref. Nos. 2, 3, 6

14. What is the 1-year 24-hour rainfall?

The 1-year-24-hour rainfall for the region is approximately 2.7 inches.

Ref. No. 34



15. What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.

The course that runoff can be expected to follow is overland toward a drainage ditch located along the southwestern border of the property. This drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek. Runoff transporting contaminants to the drainage ditch can be expected to eventually flow into Newark Bay, located approximately 0.5 mile east of the site.

Ref. Nos. 2, 3, 6, 18, 36

16. Identify uses of surface waters within 3 miles downstream of the site (i.e., drinking, irrigation, recreation, commercial, industrial, not used).

The tidal wetland and Newark Bay are designated for secondary contact recreation, the propagation and maintenance of natural biota, and migration of fish populations. The Newark Bay, within 3 miles downstream of the site is also used for commercial navigation and the discharge of effluent from wastewater treatment facilities. Surface water is not used for drinking within a 3-mile radius of the site.

Ref. Nos. 3, 11, 13, 25, 28, 31, 36

17. Describe any wetlands, greater than 5 acres in area, within 2 miles downstream of the site. Include whether it is a freshwater or coastal wetland.

The site is located in a built-up wetland area. Several coastal estuarine wetlands are located within 2 miles downstream of the site. An estuarine, intertidal, flat wetland is located approximately 0.7 mile to the southeast of the site.

Ref. Nos. 3, 21 through 23, 36

18. Describe any critical habitats of federally listed endangered species within 2 miles of the site along the migration path.

The least tern (*Sterna antillarum*) is a federally listed endangered species which has been identified within 2 miles downstream of the site along the migration path. This shorebird is known to breed during the summer months in parts of Essex County. An estuarine, intertidal, flat wetland may provide a breeding ground for this species and is located approximately 0.7 mile downstream of the site in Newark Bay.

Ref. Nos. 21 through 23, 36

19. What is the distance to the nearest sensitive environment along or contiguous to the migration path (if any exist within 2 miles)?

The nearest sensitive environment is the estuarine, intertidal, flat wetland located in Newark Bay approximately 0.7 mile downstream of the site.

Ref. Nos. 21 through 23, 36

20. Identify the population served or acres of food crops irrigated by surface water intakes within 3 miles downstream of the site and the distance to the intake(s).

There are no known surface water intakes used for potable and irrigation purposes within 3 miles downstream of the site.

Ref. Nos. 25, 36

**21. What is the state water quality classification of the water body of concern?**

The state water quality classification for the tidally influenced Newark Bay and the Passaic River is SE3.

Ref. No. 28

**22. Describe any apparent biota contamination that is attributable to the site.**

There is no known biota contamination attributable to the site.

Ref. Nos. 2, 3, 6

**AIR ROUTE**

**23. Describe the likelihood of a release of contaminant(s) to the air as follows: observed, alleged, potential, none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.**

There is a low potential for release of contaminants to the air. During a sampling site investigation conducted by NUS Corporation Region 2 FIT on June 26, 1990, no air readings above background were detected in the breathing zone above sample locations on the Organic Vapor Analyzer (OVA) or the HNu photoionization detector, except at sample location NJGG-S1. The OVA detected air readings of 2 to 3 ppm above background in the breathing zone above this surface soil location. However, a thick layer of wood mulch currently covers the barren site soil. Should this mulch layer be removed, a potential may exist for contaminated soil particles to become airborne.

Ref. Nos. 2, 3

**24. What is the population within a 4-mile radius of the site?**

The population within a 4-mile radius of the site is approximately 421,900.

Ref. No. 35

**FIRE AND EXPLOSION**

**25. Describe the potential for a fire or explosion to occur with respect to the hazardous substance(s) known or suspected to be present on site. Identify the hazardous substance(s) and the method of storage or containment associated with each.**

Based on recent field observations, there is little potential for fire or explosion to occur on site. A thick layer of mulch presently covers contaminated soil on site. However, a concern with the site is the possibility of fire or explosion resulting from potentially hazardous and flammable chemicals which could be in pits on site.

Ref. Nos. 2, 3, 15 through 19

**26. What is the population within a 2-mile radius of the hazardous substance(s) at the facility?**

Approximately 50,100 people reside within a 2-mile radius of the site.

Ref. No. 35

**DIRECT CONTACT/ON-SITE EXPOSURE**

27. Describe the potential for direct contact with hazardous substance(s) stored in any of the waste units on site or deposited in on-site soils. Identify the hazardous substance(s) and the accessibility of the waste unit.

There is potential for direct contact with contaminants on site as access to the property is not restricted. The locked front gate entrance can easily be opened by removal of wire which holds the gate to the property's fenced perimeter. The site is not entirely fenced and the southeastern fenced perimeter has a large hole in it. A transient claims to have lived on the property for approximately 12 years. When it rains, the fur of six stray dogs living on site allegedly turns green and purple. This discoloration may be attributed to direct contact with green and purple colored patches of mulch on site. These patches of colored wood mulch were observed during an on-site inspection of the property conducted by NUS Corporation on June 26, 1990.

There is potential for worker exposure at the site if workers do not wear protective clothing to prevent direct contact with contaminated soil and airborne soil particulates on site.

Heavy metal soil contaminants detected in notable and significant concentrations at the site are arsenic, barium, chromium, copper, iron, lead, nickel, vanadium, and zinc. Significant concentrations of lead were detected near the property's northeastern perimeter. Sample locations NJGG-S8 and NJGG-S10 detected lead concentrations of 1,270 mg/kg and 1,750 mg/kg, respectively. Refer to question No. 1 for additional information concerning soil contaminants encountered on site.

Ref. No. 2

28. How many residents live on a property whose boundaries encompass any part of an area contaminated by the site?

There are no known residential properties bordering the facility that are contaminated by the site.

Ref. Nos. 2, 3

29. What is the population within a 1-mile radius of the site?

The population within a 1-mile radius of the site is approximately 7,200.

Ref. No. 35

## **PART VI: ACTUAL HAZARDOUS CONDITIONS**

The actual hazardous conditions present on site are related to unsecured access to the property; the potential for direct physical contact with hazardous substances at the site involving humans and/or domestic animals; and the lack of containment of potentially hazardous materials which may have been buried at the site. The soil is contaminated with heavy metals that may be attributable to the site.

No other actual hazardous conditions pertaining to human or environmental contamination have been documented. Specifically:

- Contamination has not been documented either in organisms in a food chain leading to humans or in organisms directly consumed by humans.
- There have been no documented observed incidents of direct physical contact with hazardous substances at the facility involving a human being (not including occupational exposure) or a domestic animal. However, an investigation of the site conducted by NUS Corporation on June 26, 1990, revealed that a homeless individual and domestic dogs were living on the property.
- There have been no documented incidents of damage to flora (e.g., stressed vegetation) or to fauna (e.g., fish kill) that can be attributed to the hazardous material at the site.
- There is no documented contamination of a sewer or storm drain without a point source to which the contamination can be attributed.
- Based on field observations, there is no significant threat of fire or explosion. However, hazardous and flammable chemicals may be buried beneath the soil in unlined pits.

## **PART VII: SITE SUMMARY AND RECOMMENDATIONS**

D. and J. Trucking and Waste Co., Inc. was a privately owned company that owned property located in a heavily industrialized area of Newark, Essex County, New Jersey. The D. and J. Trucking Site is approximately 3.5 acres in size and is currently owned by the Housing Authority of the City of Newark (NHA), (Ref. Nos. 4, 7). The site is bordered by the City of Newark Police Academy Site to the northeast, by Avenue P to the northwest, and by industrial/chemical plants to the southeast and southwest. The site is approximately 0.3 mile east of the Passaic River. A drainage ditch runs along the property's southwestern border and connects into a larger manmade system that drains into nearby Plum Point Creek. Storm runoff flowing overland to the drainage channel would discharge to Plum Point Creek and eventually enter Newark Bay approximately 0.5 mile to

the southeast. Miscellaneous fill, debris, and various other waste materials were placed over tidal marsh deposits in the area in order to build up the land in this section of the Newark Bay Meadowlands. Therefore, the topography of the site is relatively flat (Ref. Nos. 3, 16, 36).

During the late 1960s and early 1970s, the NHA purchased privately owned property along Avenue P for the purpose of redevelopment. On March 17, 1978, the NHA purchased lots located along the east side of Avenue P from D. and J. Trucking and Waste Co., Inc. (D. and J. Trucking). These same premises had been conveyed to the waste hauling firm by Sun Chemical Corporation in a deed dated April 9, 1974 (Ref. No. 4). Prior to 1961, the D. and J. Trucking Site was owned by Lincoln Farm Products Corporation. This corporation appears to have remained owner of record of the site until the property was transferred by deed to Sun Chemical Corporation in 1974 (Ref. No. 5). The site is presently being used as an operating base for AFA Pallet Co., Inc. (AFA). Under a contract signed with the previous administration of the NHA, AFA allegedly has a legal right to operate at the site as the designated redevelopers of the parcel. A major aspect of AFA operations at the site involves scrapping metal parts of junked vehicles, and grinding wood into mulch (Ref. No. 10). During a recent investigation of the property conducted by NUS Corporation Region 2 FIT on May 31, 1990, large piles of mulch were observed on the premises (Ref. No. 2).

D. and J. Trucking began operations at the site during the 1970s. The company had a New Jersey Solid Waste Administration Registration for the collection and haulage of solid waste in the State of New Jersey. Investigations conducted by the New Jersey Department of Environmental Protection (NJDEP) in the late 1970s disclosed that D. and J. Trucking had engaged in the disposal of chemical wastes at the site in violation of New Jersey law. As a result, an Administrative Order was issued to the president of the company in 1978 revoking the authority of D. and J. Trucking to collect and haul solid waste in the State of New Jersey (Ref. No. 18).

Background information indicates hazardous wastes present on site may be attributable to disposal of chemical wastes into pits on the property. During the 1970s there were several accounts of illegal dumping at the site involving D. and J. Trucking. The New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the site. Much of the paint and associated paint products (varnish, lacquer, and solvents) discarded at the site may have been derived from Benjamin Moore & Co. and Sherwin-Williams Co. D. and J. Trucking had a disposal contract with these two paint manufacturers (Ref Nos. 3, 6, 19, 20). Heavy metal soil and surface water/sediment contamination detected at the site may be attributable to the paint dumped on the property. Specific priority pollutant metals detected at the site are arsenic, barium, lead, chromium, vanadium, copper, nickel, and zinc. Other hazardous substances suspected or known to be present in the soil and surface water/sediments of the site are base/neutral organic compounds, volatile organics, pesticides, and petroleum hydrocarbons. These contaminants may be attributed to other industrial waste materials dumped by D. and J. Trucking at the site in violation of New Jersey law. In 1977, the Passaic Valley Sewerage Commissioners conducted an analysis of

samples obtained from an unlined pit containing liquid chemical wastes dumped at the site by D. and J. Trucking. The discarded material was identified as having a hazardous and flammable nature (Ref. Nos. 3, 16, 17, 18).

On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the soil samples identified two areas of inorganic contamination on site. Notable concentrations of arsenic, barium, chromium, vanadium, zinc, and lead were detected along the site's northeastern perimeter towards the rear of the property (Ref. No.1). During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site (Ref. No. 20). Lead and zinc may be attributed to the paint products discarded at the site. A second area of concern is located near the western corner of the property where nickel was detected at a notable concentration (Ref. No. 1). During the 1970s, D. and J. Trucking and Waste Co., Inc. also disposed of ferrous and nonferrous smelting wastes at other sites at which it operated in the Newark area ( Ref. No. 39). Nickel therefore may be attributable to smelting wastes which may have been discarded at the site by the waste hauling firm. Other soil samples collected from the site and analyzed under the Contract Laboratory Program for Target Compound List contaminants also detected the aforementioned inorganic contaminants. However, the concentrations detected were notably lower than those encountered at the two soil sample locations. Samples collected from the drainage ditch surface water/sediments also detected many of the same inorganic contaminants found in the soils of the site. Therefore, a potential exists for a release of contaminants to surface water from contaminated soil on site.

Based on the following facts and the review of available background information, D. and J. Trucking Site is given a recommendation of a **LISTING SITE INSPECTION**. There is potential for direct contact with hazardous substances on site. A locked entrance gate can easily be pushed open by removing wire which holds the gate to the property's northwestern fenced perimeter. The southeastern fenced perimeter has a large hole in it which allows access to the property. There is potential for worker exposure at the site if workers do not wear protective clothing to prevent direct contact with contaminated soil and possibly airborne particulates on site. A transient claims he lives on the premises. The site is mostly devoid of vegetation. There is potential for humans and animals to come in direct contact with exposed contaminated surface soil and airborne contaminated soil particulates at the site (Ref. No. 2). There is no known containment of alleged buried hazardous materials on site (Ref. Nos. 16, 17, 18).

There are no target populations for the groundwater and surface water pathways within 3 miles of the site. The nearest known well that draws potable water from the aquifer of concern is located approximately 4 miles northwest of the site (Ref. Nos. 11 through 14, 36). The least tern, a federally listed endangered species, has been identified within 2 miles downstream of the site along the surface water migration path. This shorebird may breed during the summer months in a sensitive environment located approximately 0.7 mile downstream of the site in Newark Bay ( Ref. Nos. 21, 22, 23, 36).

Considerations for further action should include more extensive surface and subsurface soil sampling to determine the areal extent of soil contamination, and the location of pits containing potentially hazardous waste dumped on site. Additional surface water/sediment samples should be collected from the drainage ditch to ascertain if a documented release of contaminants to these media can be established, and to assess the potential for off-site contaminant migration via surface water drainage pathways. A review of the organic data package and sampling trip report indicates the D. and J. Trucking Site should be resampled for organics. The site appears to be contaminated with a complex mixture of organic chemicals. However, more conclusive data are required to correctly identify the contaminants. The site should also be secured to prevent direct contact with hazardous substances on site by transients and domestic animals in the area.

**ATTACHMENT 1**



**D. AND J. TRUCKING**  
**NEWARK, ESSEX COUNTY, NEW JERSEY**

**CONTENTS**

Exhibit A: Reconnaissance Photograph Log

Exhibit B: Site Inspection Photograph Log

EXHIBIT A

PHOTOGRAPH LOG

D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY

SITE RECONNAISSANCE: MAY 31, 1990

D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY  
MAY 31, 1990

## PHOTOGRAPH INDEX

## ALL PHOTOGRAPHS TAKEN BY DOROTHY PONTE

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-1	Photo looking southwest at standing pool of water. Note greenish tinge and petroleum sheen.	1135
1P-2	Photo looking northeast at truck loaded with junk. Note trailer home and junked equipment.	1140
1P-3	Photo looking north at junked equipment and debris. Note bulldozer and flat bed truck.	1140
1P-4	Photo looking northwest at fence near property line. Note debris.	1140
1P-5	Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.	1145
1P-6	Photo looking east at woodchip mulch piles. Note recent tire tracks.	1146
1P-7	Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.	1150
1P-8	Photo looking northeast along southeast perimeter of property. Note hole in fence.	1153
1P-9	Photo looking southeast at storm water drainage basin.	1153
1P-10	Photo looking northeast at standing pool of water where readings on the OVA were obtained.	1155
1P-11	Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.	1155
1P-12	Photo looking east at junk and debris in eastern corner of property. Note no berm or fence.	1200
1P-13	Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.	1200
1P-14	Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires, and debris.	1206
1P-15	Looking west at cylinders near site's entrance at property's northwest perimeter. Note storm drain across street on Avenue P.	1206

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-1

May 31, 1990

1135

Photo looking southwest at standing pool of water.  
Note greenish tinge and petroleum sheen.



1P-2

May 31, 1990

1140

Photo looking northeast at truck loaded with junk.  
Note trailer home and junked equipment.

D.AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

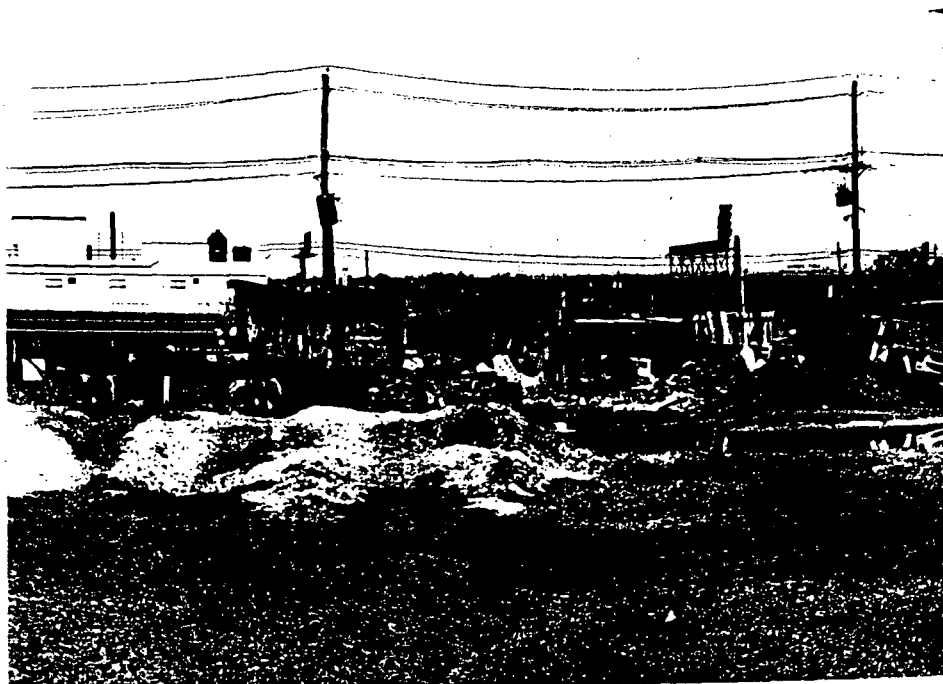


1P-3

May 31, 1990

1140

Photo looking north at junked equipment and debris.  
Note bulldozer and flat bed truck.



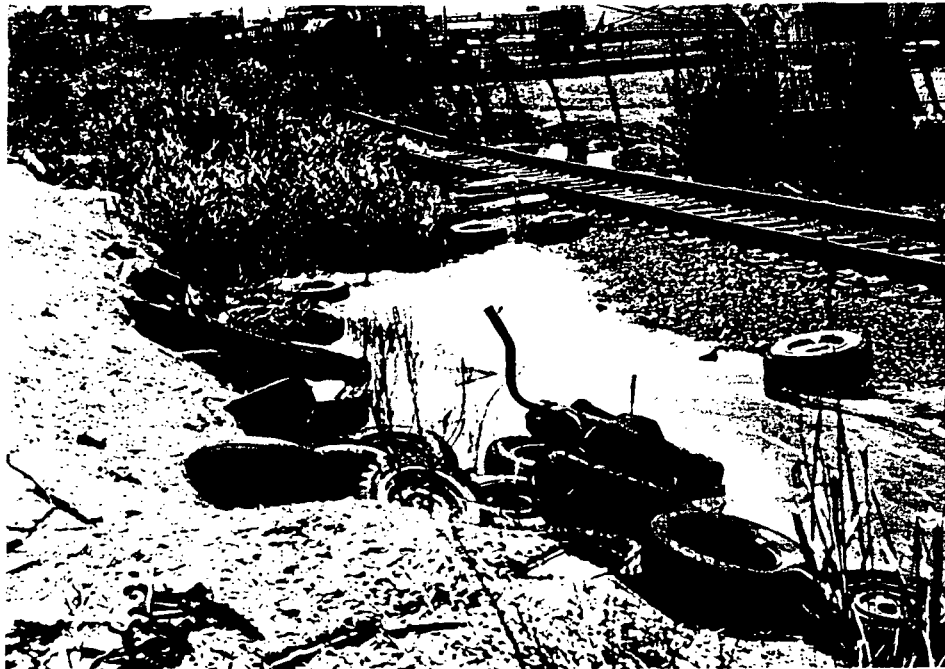
1P-4

May 31, 1990

1140

Photo looking northwest at fence near property line.  
Note debris.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-5

May 31, 1990

1145

Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.



1P-6

May 31, 1990

1146

Photo looking east at woodchip mulch piles. Note recent tire tracks.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-7

May 31, 1990

1150

Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.



1P-8

May 31, 1990

1153

Photo looking northeast along southeast perimeter of property. Note hole in fence.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-9

May 31, 1990

1153

Photo looking southeast at storm water drainage basin.



1P-10

May 31, 1990

1155

Photo looking northeast at standing pool of water where readings on the OVA were obtained.



D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-11

May 31, 1990

1155

Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.



1P-12

May 31, 1990

1200

Photo looking east at junk and debris in eastern corner of property. Note no berm or fence.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-13

May 31, 1990

1200

Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.



1P-14

May 31, 1990

1206

Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires, and debris.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-15

May 31, 1990

Looking west at cylinders near site's entrance at property's northwest perimeter. Note storm drain across street on Avenue P.

1206

EXHIBIT B

PHOTOGRAPH LOG

D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY

SITE INSPECTION: JUNE 26, 1990

D. AND J. TRUCKING  
NEWARK ESSEX COUNTY, NEW JERSEY  
JUNE 26, 1990

## PHOTOGRAPH INDEX

## ALL PHOTOGRAPHS TAKEN BY DOROTHY PONTE

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-1	Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site. Sample located at a bearing of 117° and a distance of 71 feet 2 inches, as measured from a metal pole to the sampling point.	1055
1P-2	Photo of Brian Farrell collecting surface water sediment sample SED1 from the same drainage ditch location as sample SW1. Sample SED1 is also located at the same bearing and distance as sample SW1.	1116
1P-3	Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples were located in a drainage ditch near the southern corner of the property. SW3 is a duplicate of SW2 and was collected from the same location and depth. These samples were located at a bearing of 247° and a distance of 20 feet, as measured from a chainlink fence corner pole to the sampling point.	1140
1P-4	Photo of Bruce Sanders collecting surface water sediment sample SED2 from the same drainage ditch location as SW2/SW3. Sample SED2 is also located at the same bearing and distance as samples SW2/SW3.	1142
1P-5	Photo of Brian Farrell collecting surface soil sample S1 from a depth of 0 to 6 inches. Sample was collected near the front entrance at a bearing of 110° and a distance of 94 feet, 2 inches, as measured from a pole to the sampling point.	1302
1P-6	Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property from a depth of 0 to 6 inches. Sample was collected at a bearing of 45° and a distance of 21 feet 3 inches, as measured from a chainlink fence pole to the sampling point.	1327
1P-7	Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site from a depth of 10 to 14 inches. Sample was collected at a bearing of 70° and a distance of 119 feet, as measured from a telephone pole to sampling point.	1340
1P-8	Photo of auger soil sample location S4, located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.	1400

D. AND J. TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY  
JUNE 26, 1990PHOTOGRAPH INDEX  
(cont'd)

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-9	Photo of Bruce Sanders collecting surface soil sample S5 from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point.	1450
1P-10	Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S11, located at a bearing of 109°, as measured from the same pole as that used for sample S5. Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.	1515
1P-11	Photo of Bruce Sanders collecting surface soil sample S8 from a depth of 0 to 6 inches. Sample was located near the northeastern border of the property at a bearing of 315° and a distance of 165 feet, as measured from a pole of the property's southeastern chainlink fence to the sampling point. The fence pole was located 60 feet to the south of the chainlink fence corner.	1525
1P-12	Photo of Bruce Sanders collecting surface soil sample S9 from a depth of 12 to 15 inches, located near debris along the northeastern perimeter of the property. Sample S9 was located at a bearing of 140° and a distance of 197 feet 1 inch, as measured from a pole near weeds.	1603
1P-13	Photo of Bruce Sanders collecting subsurface soil samples S6 and S7 from a depth of 6 to 18 inches. Sample S7 is a duplicate of S6 and was collected from the same location and depth as S6. These samples were located near the property's northeast perimeter at a bearing of 91° and a distance of 34 feet 9 inches, as measured from a pole on the property to the sample location.	1650
1P-14	Photo of Brian Farrell collecting background surface soil sample S10 from the eastern corner of the property where trees are growing. Sample S10 was located at a bearing of 9° and a distance of 72 feet 4 inches from the same fence pole used as a reference point for sample S8.	1705
1P-15	Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.	1707
1P-16	Photo looking at a trailer filled with large paint cans. Trailer located in east corner of property.	1708

D.AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-1

June 26, 1990

Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site. Sample located at a bearing of 117° and a distance of 71 feet 2 inches, as measured from a metal pole to the sampling point.

1055



1P-2

June 26, 1990

Photo of Brian Farrell collecting surface water sediment sample SED1 from the same drainage ditch location as sample SW1. Sample SED1 is also located at the same bearing and distance as sample SW1.

1116

043

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-3

June 26, 1990

Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples were located in a drainage ditch near the southern corner of the property. SW3 is a duplicate of SW2 and was collected from the same location and depth. These samples were located at a bearing of 247° and a distance of 20 feet, as measured from a chainlink fence corner pole to the sampling point.

1140



1P-4

June 26, 1990

Photo of Bruce Sanders collecting surface water sediment sample SED2 from the same drainage ditch location as SW2/SW3. Sample SED2 is also located at the same bearing and distance as samples SW2/SW3.

1142



D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-5

June 26, 1990

Photo of Brian Farrell collecting surface soil sample S1 from a depth of 0 to 6 inches. Sample was collected near the front entrance at a bearing of 110° and a distance of 94 feet, 2 inches, as measured from a pole to the sampling point.

1302



1P-6

June 26, 1990

Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property from a depth of 0 to 6 inches. Sample was collected at bearing of 45° and a distance of 21 feet 3 inches, as measured from a chainlink fence pole to the sampling point.

1327

045

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-7

June 26, 1990

1340

Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site from a depth of 10 to 14 inches. Sample was collected at a bearing of 70° and a distance of 119 feet, as measured from a telephone pole to sampling point.



1P-8

June 26, 1990

1400

Photo of auger soil sample location S4, located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-9

June 26, 1990

1450

Photo of Bruce Sanders collecting surface soil sample S5 from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-10

June 26, 1990

1515

Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S11, located at a bearing of 109°, as measured from the same pole as that used for sample S5. Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

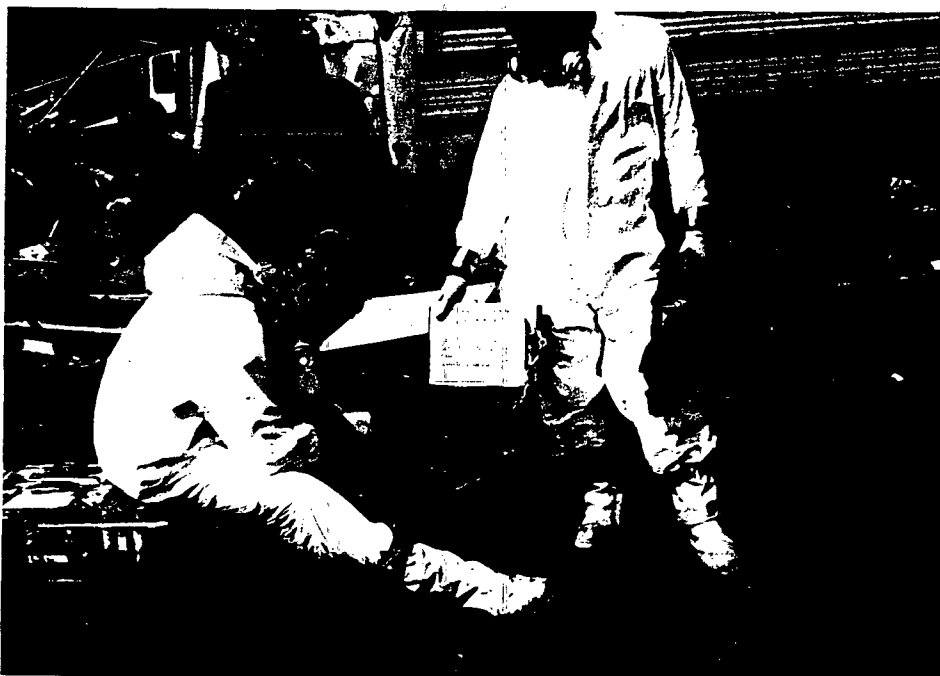


1P-11

June 26, 1990

1525

Photo of Bruce Sanders collecting surface soil sample S8 from a depth of 0 to 6 inches. Sample was located near the northeastern border of the property at a bearing of 315° and a distance of 165 feet, as measured from a pole of the property's southeastern chainlink fence to the sampling point. The fence pole was located 60 feet to the south of the chainlink fence corner.



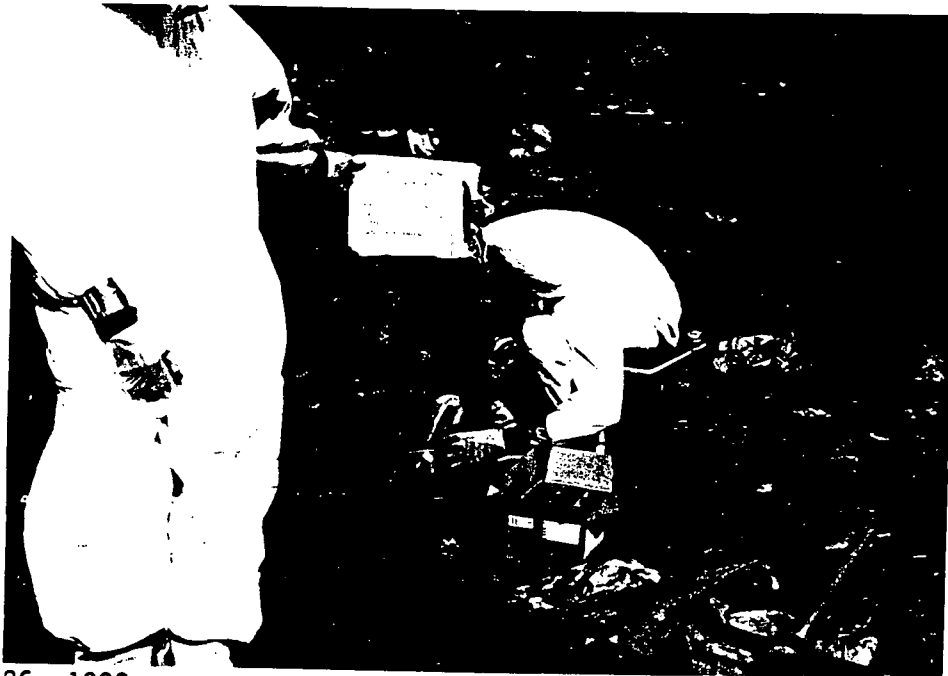
1P-12

June 26, 1990

1603

Photo of Bruce Sanders collecting surface soil sample S9 from a depth of 12 to 15 inches, located near debris along the northeastern perimeter of the property. Sample S9 was located at a bearing of 140° and a distance of 197 feet 1 inch, as measured from a pole near weeds.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-13

June 26, 1990

1650

Photo of Bruce Sanders collecting subsurface soil samples S6 and S7 from a depth of 6 to 18 inches. Sample S7 is a duplicate of S6 and was collected from the same location and depth as S6. These samples were located near the property's northeast perimeter at a bearing of 91° and a distance of 34 feet 9 inches, as measured from a pole on the property to the sample location.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-14

June 26, 1990

1705

Photo of Brian Farrell collecting background surface soil sample S10 from the eastern corner of the property where trees are growing. Sample S10 was located at a bearing of 9° and a distance of 72 feet 4 inches from the same fence pole used as a reference point for sample S8.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-15

June 26, 1990

1707

Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.



D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-16

June 26, 1990  
Photo looking at a trailer filled with large paint cans.  
Trailer located in east corner of property.

1708

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6. Telecon Note: Conversation between Paul Butler, Department of Engineering, Newark, Bill Staehle, Dresdner and Robin Associates, and Dorothy Ponte, NUS Corporation, May 22, 1990.
7. Telecon Note: Conversation between a tax assessor, Tax Assessment Office, Newark, and Dorothy Ponte, NUS Corporation, May 11, 1990.
8. Telecon Note: Conversation between Tony Massi, Tax Assessment Surveyor's Office, Newark, and Dorothy Ponte, NUS Corporation, May 31, 1990.
9. Telecon Note: Conversation between George Chranewycz, Redevelopment Department, Newark Housing Authority, and Dorothy Ponte, NUS Corporation, June 18, 1990.
10. Telecon Note: Conversation between Tony Peterpaul, AFA Pallet Co., Inc., and Dorothy Ponte, NUS Corporation, July 17, 1990.
11. Telecon Note: Conversation between Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, and Dorothy Ponte, NUS Corporation, May 15, 1990.
12. Telecon Note: Conversation between Larry Biase, Owner, Biase's Restaurant, Newark, and Dorothy Ponte, NUS Corporation, May 17, 1990.
13. Telecon Note: Conversation between Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, and Dorothy Ponte, NUS Corporation, May 23, 1990.
14. Letter from Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, to Dorothy Ponte, NUS Corporation Region 2 FIT, May 23, 1990.
15. Project Note: To D. and J. Trucking File, TDD No. 02-9005-05, from Dorothy Ponte, NUS Corporation, Subject: possible sources of contamination at the D. and J. Trucking Site, August 3, 1990.

## REFERENCES (CONT'D)

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18. Letter from Beatrice S. Tylutki, Director, Solid Waste Administration, New Jersey Department of Environmental Protection, to Dominick Attanasi, President, D. and J. Trucking and Waste Co. Inc., February 14, 1978.
19. Letter from Michael Rosenberg, Assistant Environmental Engineer, Solid Waste Administration, New Jersey Department of Environmental Protection, to Mark Ippolito, Sherwin-Williams Co., March 14, 1978.
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**REFERENCE NO. 1**

**- COPY OF CLP DATA**

**(REDLINED AND MARKED)**

**- COMPUTER QA'd  
PRINTOUT**

**SITE NAME:** D & J Trucking

**CASE# AND/OR SAS#:** 14407

**BRICS#:** <sup>8/12/90</sup> ~~NJGG~~ NJGG

**TDD#:** 02-9005-05

SITE NAME: D & J TRUCKING  
 TDD#: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407  
 LAB NAME: CHEMTECH

INORGANICS

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SE1	NJGG-SE2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	MBDD81	MBDD82	MBDD83	MBDD84	MBDD85	MBDD86	MBDD87	MBDD88	MBDD90	MBDD91	MBDD92
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg
Aluminum	275	427 E	3210 E	1380	6550 E	5590	8120	3120	10100	8440	8770
Antimony			J		55.9 E						J
Arsenic	15.5 E	21.6 E	36 E	12.1 E	61.2 E	12.5 E	14.8 E	8.9 E	12.9 E	36.4 E	111 E
Barium	284	J	350	392	304 E	111	287	61.2	335	159	181
Beryllium							J				12.4 E
Cadmium			15.6 E		8.8 E						
Calcium	134000	87100	119000	300000	76600 E	8270	3920	19700	21500	7160	10200
Chromium	R	R	112 E	37.8	236 E	15.7	54.3	163	42.2	47.4	81.6
Cobalt					J	J	J	J	J	J	13.2
Copper	53.7	53.4 E	302 E	43.7 E	613 E	223 E	62.2 E	130 E	104 E	123 E	166 E
Iron	3210	6830 E	25400 E	8750	46600 E	15300	17900	8910	22700	22300	22200
Lead		99 E	689 E	126	863 E	378	392	276	461	439	453
Magnesium	19200	18300	20600	4600	5490 E	1680	2010	5770	6650	3390	4280
Manganese	574	519	822	498	518 E	425	219	137	334	322	397
Mercury			0.57 E	0.51	1.1 E	0.39	0.81	0.84	2.5	1	1.2
Nickel	J	J	92.5 E	17.9 E	130 E	20 E	17.7 E	405	30.9 E	30 E	45.9
Potassium	55000	J	J		J	J	J		1280	J	J
Selenium				R	R	R	R	R	R	R	R
Silver											
Sodium	267000 E	161000 E	154000 E	J	2740 E	J	J	J	J	J	J
Thallium											
Vanadium	J	J	117 E	21.6	98.9 E	20.8	25.3	J	49.2	38.1	32.3
Zinc	138	244 E	1330 E	210	2930 E	438	265	165	373	380	642

NOTES:

Blank space - compound analyzed for but not detected

E - estimated value

J - estimated value, compound present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

SITE NAME: D & J TRUCKING  
 TDD: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407  
 LAB NAME: CHEMTECH

INORGANICS

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	MBDD93	MBDD94	MBDD95	MBDD97	MBDD98	MBDD99	MBCY64	N/A
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	N/A
Units	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7970	5850	11200	J				NR
Antimony	25.3 E	27.8 E	39.9 E					NR
Arsenic	13.4 E	21.5 E	27.3 E					NR
Barium	76	555	715					NR
Beryllium								NR
Cadmium	7.6	2.3	4.9					NR
Calcium	19900	23200	12000					NR
Chromium	167	74.6	259	11.2 E	J			NR
Cobalt	J	J	15.7					NR
Copper	222 E	125 E	364 E					NR
Iron	21200	5300	47200	136	J			NR
Lead	1270	619	1750	3.4 E		3.7 E	J	NR
Magnesium	3810	5280	3680					NR
Manganese	285	305	365					NR
Mercury	2.1	2	2.3					NR
Nickel	66.3	26.2 E	118					NR
Potassium	J	J	1700					NR
Selenium	R	R	R					NR
Silver		J						NR
Sodium	J	J	J					NR
Thallium								NR
Vanadium	37	28.5	90.8					NR
Zinc	934	561	1050				J	NR

NOTES:

Blank space - compound analyzed for but not detected  
 E - estimated value  
 J - estimated value, compound present below CRDL but above IDL  
 R - analysis did not pass EPA QA/QC  
 NR - analysis not required



1000: 02-9005-05

SAMPLING DATE: 6/26/90

EPA CASE NO.: 14407 LAB: S-CUBED

VOLATILES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											
Acetone	54	44	48	110 E							
Carbon Disulfide		J		40	19 E		23 E			72 E	42 E
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone								R	R		
1,1,1-Trichloroethane											
Carbon Tetrachloride											
Vinyl Acetate											
Bromodichloromethane											
1,2-Dichloropropane											
cis-1,3-Dichloropropene											
Trichloroethene											
Dibromochloromethane											
1,1,2-Trichloroethane											
Benzene					37 E						
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene								J		6 E	
Toluene	J	J	J	29 E	120 E	J					
1,1,2,2-Tetrachloroethane											
Chlorobenzene					520 E					8 E	
Ethylbenzene		J		32 E	4000 E					31 E	
Styrene											
Xylenes (Total)	J	25	22	160 E	12000 E						47 E

NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

ID: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1	1
Percent Moisture	24	30	23	--	--	--	--	--

Chloromethane						J	J	J
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide	21 E	14 E						
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene (total)								
Chloroform				J			J	J
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene	J							87 E
Toluene	42 E	130 E	J					
1,1,2,2-Tetrachloroethane								
Chlorobenzene								
Ethylbenzene	8 E	J						
Styrene								
Xylenes (Total)	120 E	8 E						

NOTES:

Blank space - compound analyzed for but not detected  
 B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

TDD: 02-9005-05

SAMPLING DATE: 6/26/90

EPA CASE NO.: 14407 LAB: S-CUBED

## SEMI-VOLATILES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BE267	BE268	BE269	BE270	BE271	BE272	BE273	BE274	BE276	BE277	BE278
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Phenol			R								R
bis(2-Chloroethyl)ether			R								R
2-Chlorophenol			R								R
1,3-Dichlorobenzene			R		J						R
1,4-Dichlorobenzene			R		J						R
Benzyl alcohol			R								R
1,2-Dichlorobenzene			R		2500						R
2-Methylphenol			R								R
bis(2-Chloroisopropyl)ether		J	R								R
4-Methylphenol			R								R
N-Nitroso-di-n-dipropylamine			R		J						R
Hexachloroethane			R								R
Nitrobenzene			R								R
Isophorone			R							J	R
2-Nitrophenol			R								R
2,4-Dimethylphenol			R								R
Benzoic acid	J	J	R								R
bis(2-Chloroethoxy)methane			R								R
2,4-Dichlorophenol			R								R
1,2,4-Trichlorobenzene			R								R
Naphthalene			R		4400	J					R
4-Chloroaniline			R								R
Hexachlorobutadiene			R								R
4-Chloro-3-Methylphenol			R								R
2-Methylnaphthalene			R		J						R
Hexachlorocyclopentadiene			R								R
2,4,6-Trichlorophenol			R								R
2,4,5-Trichlorophenol			R								R
2-Chloronaphthalene			R								R
2-Nitroaniline			R								R
Dimethylphthalate			R								R
Acenaphthylene			R	J					J	J	R
2,6-Dinitrotoluene			R								R
3-Nitroaniline			R								R
Acenaphthene			R				J	J			R
2,4-Dinitrophenol			R								R
4-Nitrophenol			R								R
Dibenzofuran			R				J				R
2,4-Dinitrotoluene			R								R
Diethylphthalate			R		J		J		1	1	R
4-Chlorophenyl-phenyl ether			R								R

SITE NAME: D & J TRUCKING  
 TDD#: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Pentachlorophenol			R								R
Phenanthrene			R	J	J	1400	1200	2000	J	980	R
Anthracene			R	J	J	J	J	J	J	J	R
Di-n-butylphthalate			R	J					J		R
Fluoranthene			R	2100	J	2500	1500	2200	1600 E	2200	R
Pyrene			R	1900	J	1900	1200	1400	1700 E	1900	R
Butylbenzylphthalate			R	J	J				J	J	R
3,3'-Dichlorobenzidine			R								R
Benzo(a)anthracene			R	J	J	1200	J	J	830 E	1000	R
Chrysene			R	J	J	1400	J	810	840 E	1000	R
bis(2-Ethylhexyl)phthalate	J	38	J	2100	24000	J	J	J	7200 E	J	R
Di-n-octylphthalate			R		J				J		R
Benzo(b)fluoranthene			R	J	J	2800	790	J	1300 E	1300	R
Benzo(k)fluoranthene			R	J	J	1400 E	J	1100 E	1100 E	940	R
Benzo(a)pyrene			R	J	J	1400	J	780	1100 E	1200	R
Indeno(1,2,3-cd)pyrene			R	J		J	J	J	J	J	R
Dibenz(a,h)anthracene			R			J					R
Benzo(g,h,i)perylene			R			J	J			J	R

NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - Presumptive evidence of the presence of the material

NR - analysis not required

Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

E MAR 10 8 J 1990, AG  
 TDD: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TOLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A

Phenol	NR
bis(2-Chloroethyl)ether	NR
2-Chlorophenol	NR
1,3-Dichlorobenzene	NR
1,4-Dichlorobenzene	NR
Benzyl alcohol	NR
1,2-Dichlorobenzene	NR
2-Methylphenol	NR
bis(2-Chloroisopropyl)ether	NR
4-Methylphenol	NR
N-Nitroso-di-n-dipropylamine	NR
Hexachloroethane	NR
Nitrobenzene	NR
Isophorone	NR
2-Nitrophenol	NR
2,4-Dimethylphenol	NR
Benzoic acid	NR
bis(2-Chloroethoxy)methane	NR
2,4-Dichlorophenol	NR
1,2,4-Trichlorobenzene	NR
Naphthalene	NR
4-Chloroaniline	NR
Hexachlorobutadiene	NR
4-Chloro-3-Methylphenol	NR
2-Methylnaphthalene	NR
Hexachlorocyclopentadiene	NR
2,4,6-Trichlorophenol	NR
2,4,5-Trichlorophenol	NR
2-Chloronaphthalene	NR
2-Nitroaniline	NR
Dimethylphthalate	NR
Acenaphthylene	NR
2,6-Dinitrotoluene	NR
3-Nitroaniline	NR
Acenaphthene	NR
2,4-Dinitrophenol	NR
4-Nitrophenol	NR
Dibenzofuran	NR
2,4-Dinitrotoluene	NR
Diethylphthalate	NR
4-Chlorophenol	NR

NAME: J. TRULING  
 TDOO: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-R1M1	NJGG-R1M2	NJGG-R1M3	NJGG-R1M4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
Pentachlorophenol								NR
Phenanthrene	J	65000 E	J					NR
Anthracene	J	J						NR
Di-n-butylphthalate								NR
Fluoranthene	J	99000 E	J					NR
Pyrene	J	55000 E	J					NR
Butylbenzylphthalate	J							NR
3,3'-Dichlorobenzidine								NR
Benzo(a)anthracene	J	J	J					NR
Chrysene	J	30000 E						NR
bis(2-Ethylhexyl)phthalate	51000 E	J	J					NR
Di-n-octylphthalate	J							NR
Benzo(b)fluoranthene	J	38000 E						NR
Benzo(k)fluoranthene	J	J						NR
Benzo(a)pyrene		J						NR
Indeno(1,2,3-cd)pyrene		J						NR
Dibenz(a,h)anthracene								NR
Benzo(g,h,i)perylene		J						NR

NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - Presumptive evidence of the presence of the material

NR - analysis not required

Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

TDD: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

PESTICIDES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TOLK1
Traffic Report No.	BE279	BE280	BE281	BE283	BE284	BE285	BE286	BE287
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A

alpha-BHC	28 E	42 E	11 E					NR
beta-BHC	730 E	330 E	88 E					NR
delta-BHC	100 E							NR
gamma-BHC (Lindane)								NR
Heptachlor	110 E			R	R	R	R	NR
Aldrin				R	R	R	R	NR
Heptachlor epoxide								NR
Endosulfan I								NR
Dieldrin				R	R	R	R	NR
4,4'-DDE	1800 E	560 E						NR
Endrin			39 E	R	R	R	R	NR
Endosulfan II	2900 E	430 E	120 E					NR
4,4'-DDD	330 E	150 E	54 E					NR
Endosulfan sulfate			50 E					NR
4,4'-DDT		110 E						NR
Methoxychlor								NR
Endrin ketone								NR
alpha-Chlordane		410 E						NR
gamma-Chlordane		300 E						NR
Toxaphene								NR
Aroclor-1016								NR
Aroclor-1221								NR
Aroclor-1232								NR
Aroclor-1242								NR
Aroclor-1248								NR
Aroclor-1254		5200 E						NR
Aroclor-1260	37000 E		1800 E					NR

NOTES:

- Blank space - compound analyzed for but not detected
- B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
- E - estimated value
- J - estimated value, compound present below CRQL but above IDL
- R - analysis did not pass EPA QA/QC
- N - Presumptive evidence of the presence of the material
- NR - analysis not required

SAMPLING TRIP REPORT

SITE NAME: D and J Trucking  
TDD #: 02-9005-05  
SAMPLING DATE: June 26, 1990  
EPA CASE NO: 14407

10566

1. Site Location: See Figure 1
2. Sample Locations: See Figure 2
3. Sample Descriptions: See Table 1
4. Laboratories Receiving Samples:

Sample Type

Name and Address of Laboratory

Organics

S-Cubed  
3398 Carmel Mtn. Road  
San Diego, CA 92121

Inorganics

Chemtech Consulting Group  
360 West 11th Street  
New York, NY 10014

STR 142 entered 8/9/90

S.S. gen. 8/9/90

5. Sample Dispatch Data:

A total eight aqueous and eleven soil/sediment samples for organic analysis were shipped by FIT 2 personel via Federal Express under Airbill No. 7212650616 on June 26, 1990 at approximately 1930 hours.

A total of seven aqueous and eleven soil/sediment samples for inorganic analysis were shipped by FIT 2 personnel via Federal Express under Airbill No. 7212650631 to Chemtech Consulting Group on June 26, 1990, at approximately 1930 hours.



IDDD: 02-9005-05  
 SAMPLING DATE: 6/26/90  
 EPA CASE NO.: 14407 LAB: S-CUBED

PESTICIDES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BE267	BE268	BE269	BE270	BE271	BE272	BE273	BE274	BE276	BE277	BE278
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
alpha-BHC		0.08						330 E			
beta-BHC		1.2	0.46	42 E			17 E	2300 E		51 E	66 E
delta-BHC								99 E			
gamma-BHC (Lindane)								15 E			
Heptachlor	R										
Aldrin	R										
Heptachlor epoxide											
Endosulfan I											
Dieldrin	R						100 E	39 E			
4,4'-DDE		0.48	0.18	67 E			21 E	180 E	190 E	45 E	60 E
Endrin	R									J	24 E
Endosulfan II		0.26		58 E							
4,4'-DDD		0.72	0.13	36 E	1600 E			2300 E	52 E	35 E	67 E
Endosulfan sulfate											
4,4'-DDT							75 E	420 E	39 E		26 E
Methoxychlor											
Endrin ketone											
alpha-Chlordane		J						J	360 E		
gamma-Chlordane		J			440 E			J	350 E	J	
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254											
Aroclor-1260											

NOTES:

Blank space - compound analyzed for but not detected  
 B - compound found in lab blank as well as sample, indicates possible/probable blank contamination  
 E - estimated value  
 J - estimated value, compound present below CRQL but above IDL  
 R - analysis did not pass EPA QA/QC  
 N - Presumptive evidence of the presence of the material  
 W - analysis not required

6. Sampling Personnel:

<u>Name</u>	<u>Organization</u>	<u>Duties on Site</u>
Dorothy Ponte	NUS Corporation, FIT 2	Site Manager, Written and Photographic Documentation
Edmund Knyfd	NUS Corporation, FIT 2	Site Safety Officer
Bill Foss	NUS Corporation, FIT 2	Sample Management Officer
Brian Farrell	NUS Corporation, FIT 2	Sampler
Bruce Sanders	NUS Corporation, FIT 2	Sampler

7. Weather Conditions:

Sunny, 68° F early morning rising to 84° F, winds from the southwest at approximately 5-7 mph.

8. Additional Comments:

All samples except for the trip blank will be analyzed for Target Compound List (TCL) organic and inorganic compounds, excluding cyanide. The trip blank will be analyzed for volatile organic compounds only.

During the sampling event, difficulties were encountered when attempting to collect surface and subsurface soil samples due to a thick layer of mulch on site. The site had been regraded since an on-site reconnaissance conducted by NUS Corporation on May 31, 1990. Large piles of mulch present during the on-site reconnaissance had since been removed and/or leveled. Mulch was spread out over the entire site's soil surface, and in several areas was over 3 feet thick. The mulch tended to retain water which also interfered with the collection of soil samples. As a result two subsurface soil samples, NJGG-S4 and NJGG-S11, were not collected.

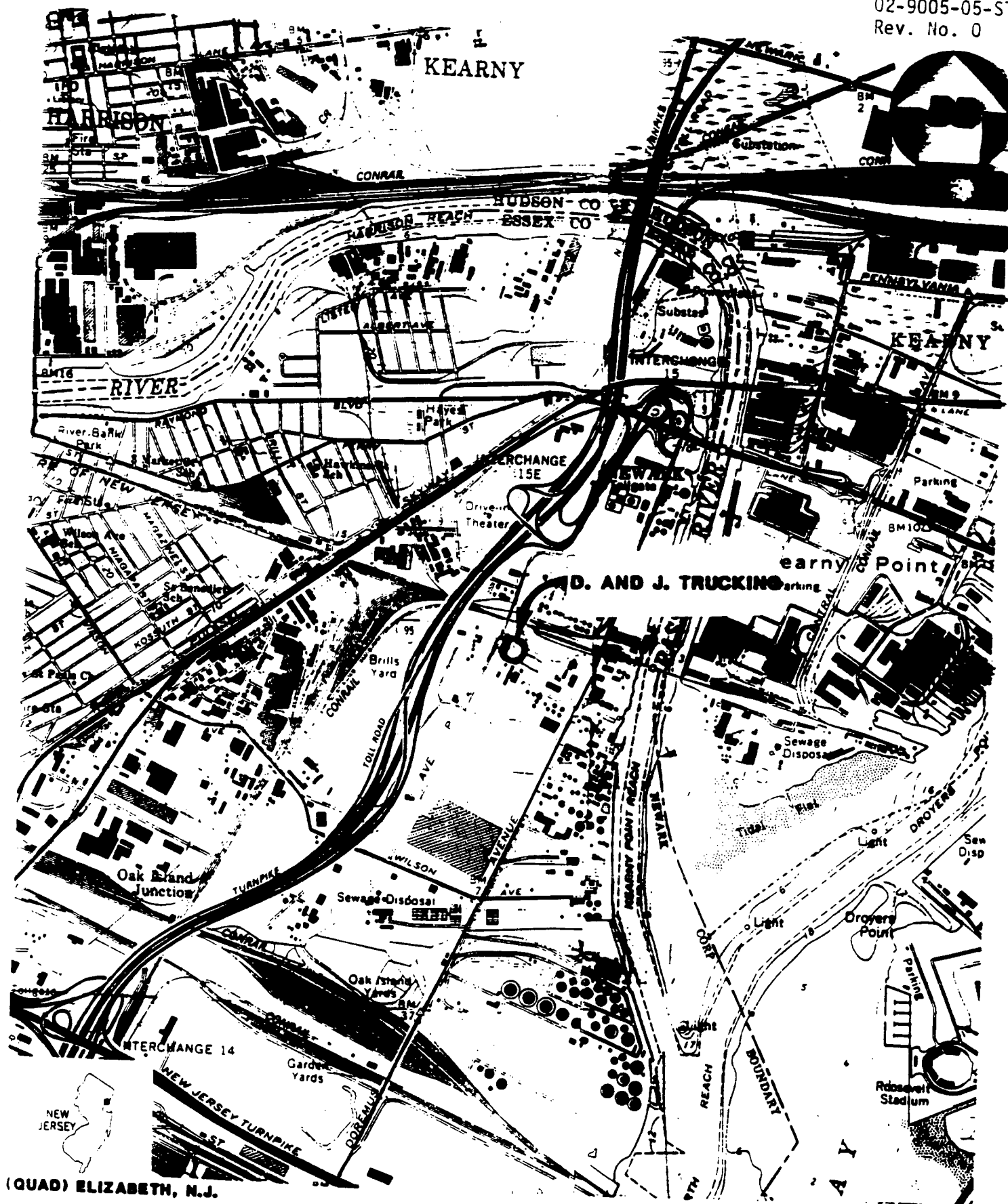
During collection of soil samples the Organic Vapor Analyzer (OVA) detected air readings of 50 to 100 parts per million (ppm) at the mulch surface. No readings above background were detected in the breathing zone above sample locations, except at sample location NJGG-S1. The OVA detected air readings of 2 to 3 ppm above background in the breathing zone above this surface soil sample location. The OVA detected air readings above background levels for the following samples: 1 to 3 ppm above the drainage ditch near surface water sample NJGG-SW1, 10 to 20 ppm above sediment sample NJGG-SED1, 10 to 30 ppm above the drainage ditch at surface water sample NJGG-SW2/SW3, 2 to 15 ppm above sediment sample NJGG-SED2, 4 to 10 ppm above surface soil sample NJGG-S1, 0.4 ppm above surface soil sample NJGG-S2, 1 to 2 ppm above surface soil sample NJGG-S5, and 5 to 14 ppm above surface soil sample NJGG-S9. No readings above background were detected in the breathing zone above sample locations on the HNu photoionization detector.

9. Report Prepared By: Dorothy Ponte

Date: June 28, 1990

10. Approved By: 

Date: 7/11/90



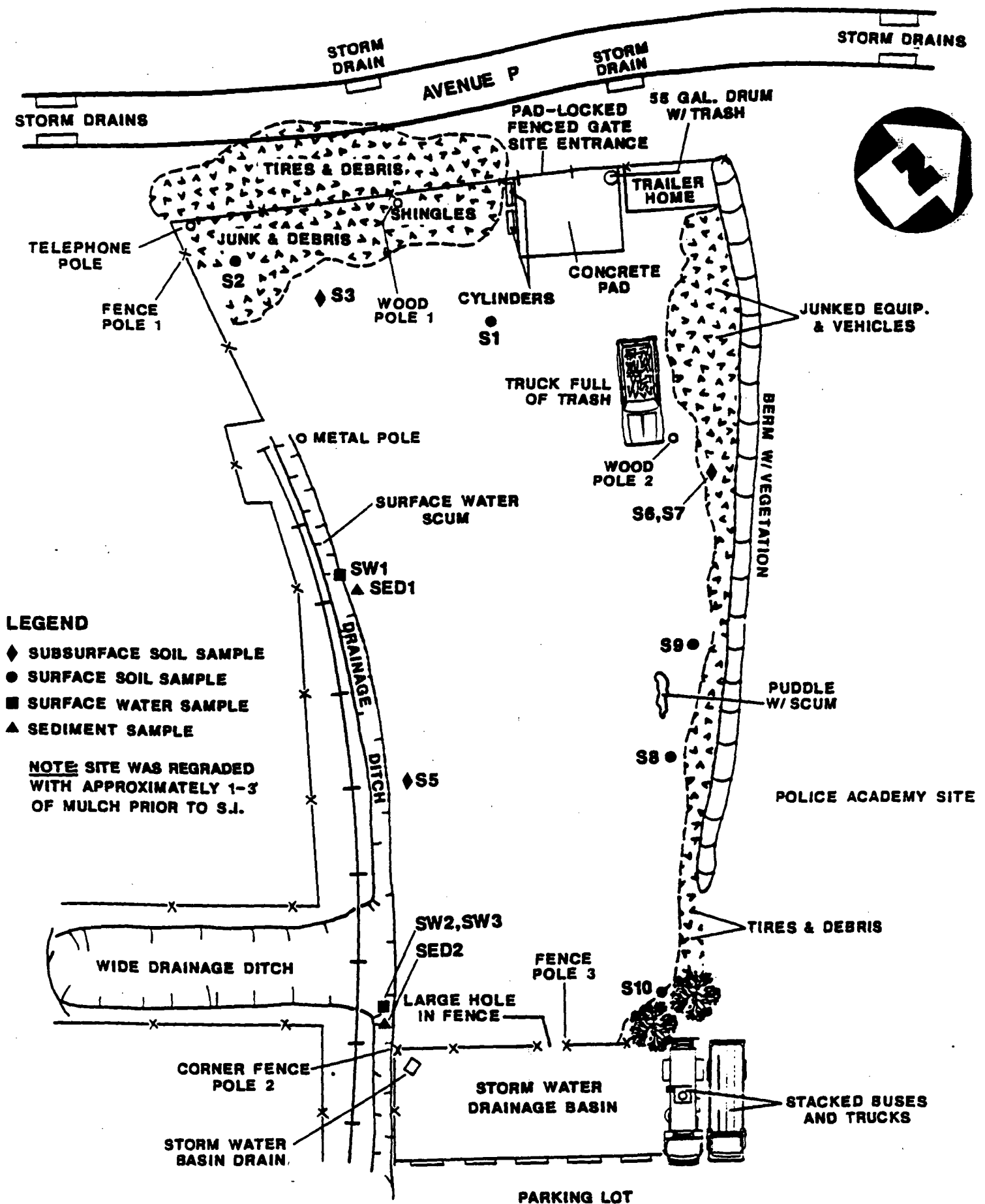
**SITE LOCATION MAP**

**D. AND J. TRUCKING, NEWARK, N.J.**

SCALE: 1" = 2000'

**FIGURE 1**





# **LEGEND**

- ◆ SUBSURFACE SOIL SAMPLE
- SURFACE SOIL SAMPLE
- SURFACE WATER SAMPLE
- ▲ SEDIMENT SAMPLE

**NOTE: SITE WAS REGRADED WITH APPROXIMATELY 1-3" OF MULCH PRIOR TO S.I.**

## **SAMPLE LOCATION MAP**

**D. AND J. TRUCKING, NEWARK, N.J.**

**NOT TO SCALE**

**FIGURE 2** 072



TABLE I  
SAMPLE DESCRIPTIONS  
D AND J TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY  
CASE #14407

<u>Sample ID Number</u>	<u>Organic Traffic Number</u>	<u>Inorganic Traffic Number</u>	<u>Time Hours</u>	<u>Sample Type</u>	<u>Sample Location</u>
NJGG-SW1*	BEZ67 1-1-1	MBDD81 —	1055	Surface Water	Surface water sample was collected from a drainage ditch located at a bearing of 117° and a distance of 71 feet, 2 inches from a metal pole near the property's southwestern perimeter
NJGG-SW2	BEZ68 1-1-1	MBDD82 —	1140	Surface Water	Surface water sample was collected from a drainage ditch located at a bearing of 247° and a distance of 20 feet from fence pole 2 at the corner of the southwestern part of the site.
NJGG-SW3**	BEZ69 1-1-1	MBDD83 —	1140	Surface Water	Same location as NJGG-SW2.
NJGG-SED1	BEZ70 1-1-1	MBDD84 —	1116	Sediment	Same location as NJGG-SW1.
NJGG-SED2	BEZ71 1-1-1	MBDD85 7a	1142	Sediment	Same location as NJGG-SW2.
NJGG-S1*	BEZ72 1-1-1	MBDD86 21	1302	Soil	Surface soil sample located at a bearing of 110° and a distance of 94 feet, 2 inches from wood pole 1 near the property's northwest perimeter fence, collected from a depth of 0 to 6 inches.

Note:

- \* MS/MSD- Indicated that additional sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.
- \*\* Duplicate - Indicates that a sample was designated for duplicate analysis.

TABLE I (CONT'D)  
SAMPLE DESCRIPTIONS  
D AND J TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY  
CASE 14407

<u>Sample ID Number</u>	<u>Organic Traffic Number</u>	<u>Inorganic Traffic Number</u>	<u>Time Hours</u>	<u>Sample Type</u>	<u>Sample Location</u>
NJGG-S2	BEZ73 1-14-1	MBDD87 11	1327	Soil	Surface soil sample located at a bearing of 45° and a distance of 21 feet, 3 inches from fence pole 1 near the western corner of the property, collected from a depth of 0 to 6 inches.
NJGG-S3	BEZ74 1-14-1	MBDD88 13	1340	Soil	Subsurface soil sample located at a bearing of 70° and a distance of 119 feet from a telephone pole near the western corner of the property, collected from a depth of 10 to 14 inches.
NJGG-S5	BEZ76 1-14-1	MBDD90 20	1450	Soil	Surface soil sample located at a bearing of 115° and a distance of 120 feet from a metal pole near southwestern drainage ditch, collected from a depth of 0 to 4 inches.
NJGG-S6	BEZ77 1-14-1	MBDD91 13	1650	Soil	Subsurface soil sample, located at a bearing of 91° and a distance of 34 feet, 9 inches from wood pole 2 near the northeastern corner of property, collected from a depth of 6 to 18 inches.
NJGG-S7**	BEZ78 1-14-1 (mon)	MBDD92 13	1650	Soil	Same location as NJGG-S6.
NJGG-S8	BEZ79 1-14-1 (mon)	MBDD93 24	1525	Soil	Surface soil sample located at a bearing of 315° and a distance of 165 feet from fence pole 3 at the southeastern portion of the property, collected from a depth of 0 to 6 inches.

Note:

\*\* Duplicate - Indicates that a sample was designated for duplicate analysis.

TABLE I (CONT'D)  
SAMPLE DESCRIPTIONS  
D AND J TRUCKING  
NEWARK, ESSEX COUNTY, NEW JERSEY  
CASE 14407

<u>Sample ID Number</u>	<u>Organic Traffic Number</u>	<u>Inorganic Traffic Number</u>	<u>Time Hours</u>	<u>Sample Type</u>	<u>Sample Location</u>
NJGG-S9	BEZ80 1-1-med-1	MBDD94 30	1603	Soil	Surface soil sample located at a bearing of 140° and a distance of 197 feet from wood pole 2 near the northeastern corner of the property, collected from a depth of 0 to 5 inches.
NJGG-S10	BEZ81 1-1-med	MBDD95 23	1705	Soil	Surface soil sample located at a bearing of 9° and a distance of 72 feet, 4 inches from fence pole 3 at the south-eastern portion of the property, collected from a depth of 0 to 6 inches.
NJGG-RIN1	BEZ83 1-1-1	MBDD97 —	1152	Aqueous Rinsate Blank	Bowl Rinsate collected in the field.
NJGG-RIN2	BEZ84 1-1-1	MBDD98 —	1232	Aqueous Rinsate Blank	Trowel Rinsate collected in the field.
NJGG-RIN3	BEZ85 1-1-1	MBDD99 —	1125	Aqueous Rinsate Blank	Auger Rinsate collected in the field.
NJGG-RIN4	BEZ86 1-1-1	MBCY64 —	1020	Aqueous Rinsate Blank	Scoop Rinsate collected in the field.
NJGG-TBLK I	BEZ87 1-NA	NA — NA	0934	Aqueous Trip Blank	Aqueous Trip Blank; demonstrated analyte-free water obtained from NUS Corporation, Edison, NJ.

Note:

NA - Not Applicable

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 14407 SDG No. BEZ67 LABORATORY S-cubed SITE D. and J. Truck

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's  
Signature: [Signature]

Date: 08 / 28 / 19 90

Verified By: [Signature]

Date: 9 / 7 / 19 90

> see attached note



DATA ASSESSMENT:

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

VSA - soil - samples BEZ 74 and 76 exceeded the holding time by 1 day. No action was taken in these samples - professional (Analytes in these samples were qualified due to other judgements - assessment violations.)

- analytes ethylbenzene and xylene (total) of sample BEZ 71 were flagged estimated 'J' because these analytes values were transferred from sample BEZ 710L which exceeded holding time.

SNA - soil - sample BEZ 78 exceeded the holding time by more than 2 weeks. Therefore all analytes were rejected 'R'.

- samples BEZ 79, and 80 exceeded the holding time by less than two weeks. Therefore all analytes were qualified estimated 'J' or 'UJ' in these samples.

- sample BEZ 16 exceeded the holding time by 15 days. Professional judgement determined this sample should be validated by the criteria indicated for samples exceeding holding times by less than two weeks. All analytes were flagged estimated 'J' or 'UJ'.

- samples BEZ 70, 71, 72, 73, 74, 77 exceeded the holding time by 8 days. Professional judgement determined these samples need not be validated due to excessive holding times.

water - sample BEZ 69 exceeded the holding time by more than 2 weeks. All but one analyte was rejected 'R'. Bis (2-ethylhexyl) phthalate was estimated previously 'J' by the lab.

Pest./PCA - soil - All analytes were flagged estimated ('J' or 'UJ') in samples BEZ 74, 75, 76, 77, 78, 79, 80, and 81, as the extraction date was more than 7 days (or less than 14 days) after the date of collection. 0.77

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip field, rinse and water blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

- A) **Method blank contamination** The following analytes were flagged because they are also present in the method blank.
- VCA - methylene chloride was flagged non detect "U" in samples BE270, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81
- 2-Butanone was flagged non detect "U" in samples BE270, 71, 72, 77, 80
  - 1,1,1,2-Tetrachloroethane was flagged non detect "U" in samples BE270, 79
  - Trichloroethene was flagged non detect "U" in samples BE275, 89.
- BNF - Dithionite was flagged non detect "U" in samples BE275, 89.  
(This analyte was later flagged "R" rejected due to excessive holding times in the samples.)
- B) **Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)**

C) **Trip blank contamination**

DATA ASSESSMENT:

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable, "R".



DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be  $\geq 0.05$  in both the initial and continuing calibrations. A value  $< 0.05$  indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchloroendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

- YCA - 2-Baranone was flagged rejected 'R' in samples BE217 and 76 due to the %D exceeding 40% as calculated from the continuing calibration.
- acetone was flagged estimated 'J' in sample BE270 due to the %RSD exceeding 30% (>30% but <50%) as calculated from the initial calibration.
  - 1, 2-Dichloroethane was flagged estimated 'J' in samples BE270, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81 due to the %RSD exceeding 50% (>50% but <90%) as calculated from the initial calibration.
- BRJA - Benzo(k) fluoranthene was flagged estimated 'J' in samples BE272, 74 due to the %D exceeding 25% (>25% but <50%) as calculated from the continuing calibration.

DATA ASSESSMENT:

6. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

- Pest./PCB - water pesticide surrogate recovery (Form II Test 2)  
Dibutylchlorodendate (DBC) had low recoveries in samples BE 267, 83, 84 and 85. No explanation was provided in the case narrative.  
Soil pesticide surrogate recovery (Form II Test 2)  
DBC had high recoveries in sample BE 274 and 81. The case narrative indicated low internal standard areas apparently caused the high DBC recoveries in these samples. Low recovery (DBC recovery) was also associated in the method blank corresponding to these soil samples.
- samples BE 267, 83, 84 and 85, all analytes in these samples were quantified estimated 'J' due to low surrogate recovery. (Analytes heptachlor, aldrin, dieldrin and endrin were subsequently flagged 'N' rejected due to ms/msd recovery being outside ac limits.)



DATA ASSESSMENT:

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than  $\pm 30$  seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

VCA - soil - In sample BZ270, <sup>72</sup> ~~1,1,1-trichloroethane~~ <sup>2-butanone</sup> through xylene total analytes were flagged estimated 'J' because internal standards IS2 (chlorobenzene-d) and IS3 (bromochloromethane) were outside limits.

- In samples BZ274, ~~74~~ 73, 76, 77, 78, 79, 80, 81 all analytes were flagged estimated 'J' (chloromethane through xylene total) because all three internal standards were outside limits. (Some analytes in these samples were qualified estimated 'J' previously due to other data assessment violations. In sample BZ276, analyte 2-Butanone was qualified rejected 'R' previously due to another data assessment violation).

DATA ASSESSMENT:

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within  $\pm 0.06$  RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract.

Pest./PCB - The retention time (RT) of the analyte endrin was outside the window of the standard for column 2 10-609. This analyte would therefore be qualified estimated 'J' in sample 012281. However, endrin was previously validated estimated 'J' due to excessive holding time, therefore no action was taken.

DATA ASSESSMENT:

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data.

Post/Hub-Water-In samples 8E2L7, 68, 69, 83, 84 and 85 the analytes heptachlor, aldrin, dieldrin and endrin were rejected because the water pesticide matrix spike matrix spike duplicate recovery for these analytes were all zero.



DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

12. CONTRACT PROBLEMS NON-COMPLIANCE:

VOA - methylene chloride was not flagged 'B' in samples BE274 and 76. This was present in the corresponding method blank (VBLK2).

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.

VOA - samples BE270, 71, 73, 76, 77, 78, 74, 70, 31 were reanalyzed due to internal standards associated with the data being outside limits.

The reanalysis provided similar results and were not reanalyzed within the required 10 days holding time, therefore the original data was used.

- samples BE271 and 79 had high levels of ethyl benzene, toluene and xylenes necessitating dilution of these samples. However holding times were exceeded and the original data was used instead.

Peric./PCB - samples BE268, 74 and 79 were reanalyzed (dilutions) due to high levels of ethyl benzene, toluene and xylenes as noted in the case narrative. The original data was used, however.

DATA ASSESSMENT:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 14407 LABORATORY S-cubed  
 SDG NO. BEZ.67 DATA USER FITZ  
 SOW \_\_\_\_\_ REVIEW COMPLETION DATE 08/30/90  
 NO. OF SAMPLES 8 WATER 11 SOIL \_\_\_\_\_ OTHER \_\_\_\_\_  
 REVIEWER ☐ ESD ☐ ESAT ☒ OTHER CONTRACT/CONTRACTOR \_\_\_\_\_

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	_____	<u>M</u>	<u>M</u>	_____
2. GC-MS TUNE/ GC PERFORMANCE	_____	_____	_____	_____
3. INITIAL CALIBRATIONS	_____	_____	_____	_____
4. CONTINUING CALIBRATIONS	_____	_____	_____	_____
5. FIELD BLANKS ("F" = not applicable)	_____	_____	_____	_____
6. LABORATORY BLANKS	<u>X</u>	_____	_____	_____
7. SURROGATES	_____	_____	<u>M</u>	_____
8. MATRIX SPIKE/DOPLICATES	_____	_____	<u>Z</u>	_____
9. REGIONAL QC ("F" = not applicable)	_____	_____	_____	_____
10. INTERNAL STANDARDS	<u>M</u>	_____	_____	_____
11. COMPOUND IDENTIFICATION	_____	_____	_____	_____
12. COMPOUND QUANTITATION	_____	_____	<u>1</u>	_____
13. SYSTEM PERFORMANCE	<u>X</u>	<u>C</u>	<u>M</u>	_____
14. OVERALL ASSESSMENT	<u>X</u>	<u>M</u>	<u>Z</u>	_____

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

M = More than about 5% of the data points are qualified as estimated.

Z = More than about 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

AREAS OF CONCERN: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Info:

08/28/90

Case #:

14407

Project: D and J Trucking

Lab Name: S-Cubed

Reviewer's Initials: AB

Number of Samples: 11 soil, 8 water

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	m/m Other	Total # Samples	Total # Rejected/ Total # in all Sample
Acids (15)		$\frac{1}{2}$					18	$\frac{1}{270}$
H/N (50)		$\frac{11}{2}$	$\frac{2}{2}$				18	$\frac{101}{900}$
VOA (35)			$\frac{2}{2}$	$\frac{18}{13}$			19	$\frac{20}{665}$
PEST (20)						$\frac{29}{2}$	2	$\frac{29}{300}$
ICB (7)							18	$\frac{0}{92}$
TCDD (1)							2	$\frac{0}{1}$

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)		$\frac{45}{3}$					10	$\frac{45}{270}$
H/N (50)		$\frac{150}{3}$		1			12	$\frac{150}{100}$
VOA (35)		$\frac{2}{2}$	$\frac{1}{11}$			$\frac{327}{10}$	11	$\frac{321}{665}$
PEST (20)		$\frac{200}{11}$					12	$\frac{300}{100}$
ICB (7)		$\frac{77}{11}$						$\frac{105}{126}$
TCDD (1)							1	$\frac{0}{1}$

Upon review of this data package and further review of the sampling trip report it is recommended that this site be resampled with additional attention to sample matrix. The problems created by the sample matrix made much if not all of the data questionable. The laboratory exceeded holding times on many of the samples which may have been due to the samples. Matrix spike recoveries were questionable in many cases. Identification of multiple target chemicals was virtually impossible due to interferences. Repeat analyses of samples yielded conflicting results. This site appears to be contaminated with a complex mixture of organic chemicals but more conclusive data is required to correctly identify the contaminant.

Pamela Greenlaw

9/7/90

**S-CUBED**

A Division of Maxwell Laboratories, Inc.

**RECEIVE**

AUG 01 1990

July 31, 1990

Vol 1 of 3

**Narrative Case: 14407****S-CUBED Contract No. 68D90027**

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This case consists of the following samples reported under SDG : BEZ67

BEZ67(w)	BEZ71(s)	BEZ76(s)	BEZ80(s)	BEZ85(w)
BEZ68(w)	BEZ72(s)	BEZ77(s)	BEZ81(s)	BEZ86(w)
BEZ69(w)	BEZ73(s)	BEZ78(s)	BEZ83(w)	BEZ87(w)*
BEZ70(s)	BEZ74(s)	BEZ79(s)	BEZ84(w)	

\*VOA only

Matrix: BEZ67(w)  
BEZ72(low soil)  
BEZ81(medium soil ABN)

VOA Reanalyses: BEZ70RE BEZ76RE BEZ79RE  
BEZ71RE BEZ77RE BEZ80RE  
BEZ73RE BEZ78RE BEZ81RE

VOA Dilutions: BEZ71DL BEZ79DL

Pesticide Dilutions: BEZ68DL BEZ71DL BEZ79DL

The soil samples were very complex necessitating reanalyses on almost all samples due to consistently low internal standard areas. These low areas also caused apparently high surrogate recoveries on many samples. The samples were characterized by high levels of substituted benzenes. The high levels of ethyl benzene, toluene and xylenes required the dilutions listed above. In general the data between the original and reanalyzed samples were consistent. However in several instance there was an evident lack of sample homogeneity between sample aliquots. This problem is most readily apparent in the three analyses of BEZ79 where varying amount of toluene were detected. Many holding times were missed on the soil analyses due to problems inherent to analyzing such complex samples. Most original analyses were within holding times, however it was not possible to reanalyze these samples within the required 10 days.

Water VOA analyses were uncomplicated with low levels of substituted benzenes

091



found in several samples. The major QC problem was a soil lab blank on July 17 which contained carbon disulfide at a level of 7 ppb. Also the matrix analysis of BEZ72 yielded inconsistent results for toluene, due to the varying amount of this compound native to the sample.

BNA analyses were carried out by medium level techniques for samples BEZ78, BEZ79, BEZ80 and BEZ81. Samples were characterized by high levels of substituted benzenes, hydrocarbons and polynuclear aromatic hydrocarbons. Reextractions (outside of holding times) were necessary for BEZ69, BEZ76, and BEZ78 due to low surrogate recoveries in the original analyses.

Pesticide analyses were also complicated by the highly organic nature of the soil samples. Dilutions (1:10) were necessary for BEZ67, BEZ71 and BEZ79. Numerous single component pesticides were detected in most sample. Most could not be confirmed by GC-MS, probably due to interferences. Samples BEZ79, BEZ80, and BEZ81 contained Aroclors. Other samples seemed to contain degraded Aroclor patterns. The matrix compounds in the spiked water samples were outside of the windows due to the sample matrix, thus no data are reported for most of these compounds. The soil matrix results were more normal. These complex samples precluded successful analyses of the close out EVAL and IND standards in the first 72 hour sequence. Please note that Forms IX could not be numbered correctly because there were more than nine forms.

Please note that S-CUBED uses megabore capillary for pesticide analysis, thus the action limit for DBC percent difference is 1.5 % rather than 0.3 %. S-CUBED also experiences interferences with the benzoic acid quantitation mass of 122 from 2,4 dimethyl phenol. Although the top of the chromatographic peak of these compounds are separated by about a minute, benzoic acid exhibits a high level of "fronting" which causes coelution of these two compounds. Consequently it is considerably more accurate to use the base peak of 105 for the quantitation of benzoic acid. Also note that S-CUBED uses a "X" flag to indicate the matrix spiked compounds.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

JoAnn Wilkinson

Date: 7/31/92

JoAnn Wilkinson, Project Manager

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ67

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	5	U
67-64-1-----	Acetone	54	
75-15-0-----	Carbon Disulfide	5	U
75-35-4-----	1,1-Dichloroethene	5	U
75-34-3-----	1,1-Dichloroethane	5	U
540-59-0-----	1,2-Dichloroethene (Total)	5	U
67-66-3-----	Chloroform	5	U
107-06-2-----	1,2-Dichloroethane	5	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	5	U
56-23-5-----	Carbon Tetrachloride	5	U
108-05-4-----	Vinyl Acetate	10	U
75-27-4-----	Bromodichloromethane	5	U
78-87-5-----	1,2-Dichloropropane	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U
79-01-6-----	Trichloroethene	5	U
124-48-1-----	Dibromochloromethane	5	U
79-00-5-----	1,1,2-Trichloroethane	5	U
71-43-2-----	Benzene	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
75-25-2-----	Bromoform	5	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-88-3-----	Toluene	1	J
108-90-7-----	Chlorobenzene	5	U
100-41-4-----	Ethylbenzene	5	U
100-42-5-----	Styrene	5	U
1330-20-7-----	Xylene (total)	2	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ67

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ68

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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74-87-3-----	Chloromethane_____	10	U
74-83-9-----	Bromomethane_____	10	U
75-01-4-----	Vinyl Chloride_____	10	U
75-00-3-----	Chloroethane_____	10	U
75-09-2-----	Methylene Chloride_____	5	U
67-64-1-----	Acetone_____	44	
75-15-0-----	Carbon Disulfide_____	1	J
75-35-4-----	1,1-Dichloroethene_____	5	U
75-34-3-----	1,1-Dichloroethane_____	5	U
540-59-0-----	1,2-Dichloroethene (Total)_____	5	U
67-66-3-----	Chloroform_____	5	U
107-06-2-----	1,2-Dichloroethane_____	5	U
78-93-3-----	2-Butanone_____	10	U
71-55-6-----	1,1,1-Trichloroethane_____	5	U
56-23-5-----	Carbon Tetrachloride_____	5	U
108-05-4-----	Vinyl Acetate_____	10	U
75-27-4-----	Bromodichloromethane_____	5	U
78-67-5-----	1,2-Dichloropropane_____	5	U
10061-02-6-----	trans-1,3-Dichloropropene_____	5	U
79-01-6-----	Trichloroethene_____	53	U
124-48-1-----	Dibromochloromethane_____	5	U
79-00-5-----	1,1,2-Trichloroethane_____	5	U
71-43-2-----	Benzene_____	5	U
10061-01-5-----	cis-1,3-Dichloropropene_____	5	U
75-25-2-----	Bromoform_____	5	U
591-78-6-----	2-Hexanone_____	10	U
108-10-1-----	4-Methyl-2-Pentanone_____	10	U
127-18-4-----	Tetrachloroethene_____	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane_____	5	U
108-88-3-----	Toluene_____	3	J
108-90-7-----	Chlorobenzene_____	5	U
100-41-4-----	Ethylbenzene_____	3	J
100-42-5-----	Styrene_____	5	U
1330-20-7-----	Xylene (total)_____	25	

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ68

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ69

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ69

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	5	U
67-64-1	-----Acetone	48	
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (Total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-02-6	-----trans-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	1	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
591-78-6	-----2-Hexanone	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	2	J
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Xylene (total)	22	



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ69

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ69

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ70

Sample wt/vol: 4.993 (g/mL) G

Lab File ID: BEZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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74-87-3	Chloromethane	18	U
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	31	U
67-64-1	Acetone	110	U
75-15-0	Carbon Disulfide	40	U
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (Total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U
78-93-3	2-Butanone	55	U
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	18	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-02-6	trans-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
75-25-2	Bromoform	9	U
591-78-6	2-Hexanone	18	U
108-10-1	4-Methyl-2-Pentanone	18	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	29	U
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	32	U
100-42-5	Styrene	9	U
1330-20-7	Xylene (total)	160	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ70

Sample wt/vol: 4.993 (g/mL) G

Lab File ID: BEZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ70

Sample wt/vol: 5.015 (g/mL) G

Lab File ID: REZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	-----Chloromethane	18	U
74-83-9	-----Bromomethane	18	U
75-01-4	-----Vinyl Chloride	18	U
75-00-3	-----Chloroethane	18	U
75-09-2	-----Methylene Chloride	23	B
67-64-1	-----Acetone	18	U
75-15-0	-----Carbon Disulfide	9	U
75-35-4	-----1,1-Dichloroethene	9	U
75-34-3	-----1,1-Dichloroethane	9	U
540-59-0	-----1,2-Dichloroethene (Total)	9	U
67-66-3	-----Chloroform	9	U
107-06-2	-----1,2-Dichloroethane	9	U
78-93-3	-----2-Butanone	18	U
71-55-6	-----1,1,1-Trichloroethane	9	U
56-23-5	-----Carbon Tetrachloride	9	U
108-05-4	-----Vinyl Acetate	18	U
75-27-4	-----Bromodichloromethane	9	U
78-87-5	-----1,2-Dichloropropane	9	U
10061-02-6	-----trans-1,3-Dichloropropene	9	U
79-01-6	-----Trichloroethene	9	U
124-48-1	-----Dibromochloromethane	9	U
79-00-5	-----1,1,2-Trichloroethane	9	U
71-43-2	-----Benzene	9	U
10061-01-5	-----cis-1,3-Dichloropropene	9	U
75-25-2	-----Bromoform	9	U
591-78-6	-----2-Hexanone	18	U
108-10-1	-----4-Methyl-2-Pentanone	18	U
127-18-4	-----Tetrachloroethene	9	U
79-34-5	-----1,1,2,2-Tetrachloroethane	9	U
108-88-3	-----Toluene	28	U
108-90-7	-----Chlorobenzene	9	U
100-41-4	-----Ethylbenzene	56	U
100-42-5	-----Styrene	9	U
1330-20-7	-----Xylene (total)	300	

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ70

Sample wt/vol: 5.015 (g/mL) G

Lab File ID: REZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 4

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.00000-08-7	METHANE, DICHLORODIFLUORO-	2.80	20	J
2.	UNKNOWN	6.48	16	J
3.	UNKNOWN C10H16	24.81	55	J
4.	UNKNOWN	31.16	30	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 5.005 (g/mL) G

Lab File ID: BEZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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74-87-3	Chloromethane	35	U
74-83-9	Bromomethane	35	U
75-01-4	Vinyl Chloride	35	U
75-00-3	Chloroethane	35	U
75-09-2	Methylene Chloride	74	U
67-64-1	Acetone	35	U
75-15-0	Carbon Disulfide	19	U
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (Total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	29	U
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
108-05-4	Vinyl Acetate	35	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	37	U
10061-01-5	cis-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	U
591-78-6	2-Hexanone	35	U
108-10-1	4-Methyl-2-Pentanone	35	U
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	120	U
108-90-7	Chlorobenzene	520	U
100-41-4	Ethylbenzene	2000	U
100-42-5	Styrene	18	U
1330-20-7	Xylene (total)	5400	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 5.005 (g/mL) G

Lab File ID: BEZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 9

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.00110-82-7	CYCLOHEXANE(DOT (8C19C1)	13.22	28	J
2.00096-37-7	CYCLOPENTANE, METHYL- (8C19C	13.99	61	J
3.	UNKNOWN	16.09	25	J
4.	UNKNOWN C6H14	18.06	51	J
5.	UNKNOWN	18.68	38	J
6.00589-34-4	HEXANE, 3-METHYL- (8C19C1)	21.08	80	J
7.	UNKNOWN	22.32	8	J
8.	UNKNOWN	24.88	13	J
9.	UNKNOWN	26.67	11	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ71

Sample wt/vol: 5.010 (g/mL) G

Lab File ID: REZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

74-87-3	Chloromethane	35	U
74-83-9	Bromomethane	35	U
75-01-4	Vinyl Chloride	35	U
75-00-3	Chloroethane	35	U
75-09-2	Methylene Chloride	37	B
67-64-1	Acetone	150	
75-15-0	Carbon Disulfide	7	J
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (Total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	35	U
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
108-05-4	Vinyl Acetate	35	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	20	
10061-01-5	cis-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	U
591-78-6	2-Hexanone	35	U
108-10-1	4-Methyl-2-Pentanone	35	U
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	120	
108-90-7	Chlorobenzene	240	
100-41-4	Ethylbenzene	930	E
100-42-5	Styrene	18	U
1330-20-7	Xylene (total)	2800	E

105

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ71

Sample wt/vol: 5.010 (g/mL) G

Lab File ID: REZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 10

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.00110-82-7	CYCLOHEXANE(DOT (8C19C1))	13.19	49	J
2.00096-37-7	CYCLOPENTANE, METHYL- (8C19C)	14.04	60	J
3.	UNKNOWN	16.09	26	J
4.	UNKNOWN C5H14	18.07	51	J
5.	UNKNOWN	18.69	40	J
6.00589-34-4	HEXANE, 3 METHYL- (8C19C1)	21.09	80	J
7.	UNKNOWN	21.59	17	J
8.	UNKNOWN	24.89	23	J
9.	UNKNOWN	25.28	13	J
10.	UNKNOWN	26.71	14	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ71

Sample wt/vol: 1.004 (g/mL) G

Lab File ID: DLZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/17/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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74-87-3-----	Chloromethane	180	U
74-83-9-----	Bromomethane	180	U
75-01-4-----	Vinyl Chloride	180	U
75-00-3-----	Chloroethane	180	U
75-09-2-----	Methylene Chloride	240	B
67-64-1-----	Acetone	180	U
75-15-0-----	Carbon Disulfide	160	B
75-35-4-----	1,1-Dichloroethene	88	U
75-34-3-----	1,1-Dichloroethane	88	U
540-59-0-----	1,2-Dichloroethene (Total)	88	U
67-66-3-----	Chloroform	88	U
107-06-2-----	1,2-Dichloroethane	88	U
78-93-3-----	2-Butanone	180	U
71-55-6-----	1,1,1-Trichloroethane	88	U
56-23-5-----	Carbon Tetrachloride	88	U
108-05-4-----	Vinyl Acetate	180	U
75-27-4-----	Bromodichloromethane	88	U
78-87-5-----	1,2-Dichloropropane	88	U
10061-02-6-----	trans-1,3-Dichloropropene	88	U
79-01-6-----	Trichloroethene	88	U
124-48-1-----	Dibromochloromethane	88	U
79-00-5-----	1,1,2-Trichloroethane	88	U
71-43-2-----	Benzene	88	U
10061-01-5-----	cis-1,3-Dichloropropene	88	U
75-25-2-----	Bromoform	88	U
591-78-6-----	2-Hexanone	180	U
108-10-1-----	4-Methyl-2-Pentanone	180	U
127-18-4-----	Tetrachloroethene	88	U
79-34-5-----	1,1,2,2-Tetrachloroethane	88	U
108-88-3-----	Toluene	390	
108-90-7-----	Chlorobenzene	930	
100-41-4-----	Ethylbenzene	4000	D
100-42-5-----	Styrene	88	U
1330-20-7-----	Xylene (total)	12000	D

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ71

Sample wt/vol: 1.004 (g/mL) G

Lab File ID: DLZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72

Date Analyzed: 07/17/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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108

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 5.004 (g/mL) G

Lab File ID: BEZ72

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 21

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	19	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	35	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	4	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	31	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	47	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ72

Sample Name: S-CUBED

Contract: 68-D9-0027

Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 5.004 (g/mL) G

Lab File ID: BEZ72

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 21

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.55	31	J
2.	UNKNOWN	22.05	11	J
3.	UNKNOWN	23.37	8	J
4.	UNKNOWN BENZENE, METHYLETHYL	25.04	120	J
5.	UNKNOWN BENZENE, METHYLETHYL	26.79	13	J
6.	UNKNOWN	29.03	9	J
7.	UNKNOWN	30.94	16	J
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## EPA SAMPLE NO.

Contract: 68-D9-0027

BEZ73

SDG No. : BEZ67

Lab Sample ID: BEZ73

Lab File ID: BEZ73

Date Received: 06/27/90

Date Analyzed: 07/06/90

Dilution Factor: 1.000

Q

[illegible]

March 19 1900

1E.  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ73

Sample wt/vol: 5.007 (g/mL) G

Lab File ID: BEZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 4

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	22.40	14	J
2.	UNKNOWN	23.64	5	J
3.	UNKNOWN	28.57	230	J
4.	UNKNOWN	31.09	43	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ73

Sample wt/vol: 5.005 (g/mL) G

Lab File ID: REZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ73

Sample wt/vol: 5.005 (g/mL) G

Lab File ID: REZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.78	9	J
2.	UNKNOWN	28.91	15	J
3.				
4.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ74

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 4.998 (g/mL) G

Lab File ID: REZ74

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/11/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	39	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ74

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 4.998 (g/mL) G

Lab File ID: REZ74

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/11/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ76

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 4.997 (g/mL) G

Lab File ID: REZ76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20

Date Analyzed: 07/11/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	-----Chloromethane	13	U
74-83-9	-----Bromomethane	13	UU
75-01-4	-----Vinyl Chloride	13	UU
75-00-3	-----Chloroethane	13	UU
75-09-2	-----Methylene Chloride	53	U
67-64-1	-----Acetone	13	UU
75-15-0	-----Carbon Disulfide	6	UU
75-35-4	-----1,1-Dichloroethene	6	UU
75-34-3	-----1,1-Dichloroethane	6	UU
540-59-0	-----1,2-Dichloroethene (Total)	6	UU
67-66-3	-----Chloroform	6	UU
107-06-2	-----1,2-Dichloroethane	6	UU
78-93-3	-----2-Butanone	13	U
71-55-6	-----1,1,1-Trichloroethane	6	UU
56-23-5	-----Carbon Tetrachloride	6	UU
108-05-4	-----Vinyl Acetate	13	UU
75-27-4	-----Bromodichloromethane	6	UU
78-87-5	-----1,2-Dichloropropane	6	UU
10061-02-6	-----trans-1,3-Dichloropropene	6	UU
79-01-6	-----Trichloroethene	6	UU
124-48-1	-----Dibromochloromethane	6	UU
79-00-5	-----1,1,2-Trichloroethane	6	UU
71-43-2	-----Benzene	6	UU
10061-01-5	-----cis-1,3-Dichloropropene	6	UU
75-25-2	-----Bromoform	6	UU
591-78-6	-----2-Hexanone	13	UU
108-10-1	-----4-Methyl-2-Pentanone	13	UU
127-18-4	-----Tetrachloroethene	6	UU
79-34-5	-----1,1,2,2-Tetrachloroethane	6	UU
108-88-3	-----Toluene	6	UU
108-90-7	-----Chlorobenzene	6	UU
100-41-4	-----Ethylbenzene	6	UU
100-42-5	-----Styrene	6	UU
1330-20-7	-----Xylene (total)	6	UU

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 4.997 (g/mL) G

Lab File ID: REZ76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20

Date Analyzed: 07/11/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ76RE

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: RRZ76

Sample wt/vol: 5.003 (g/mL) G

Lab File ID: RRZ76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
			Q
74-87-3	-----Chloromethane	13	U
74-83-9	-----Bromomethane	13	U
75-01-4	-----Vinyl Chloride	13	U
75-00-3	-----Chloroethane	13	U
75-09-2	-----Methylene Chloride	16	B
67-64-1	-----Acetone	13	U
75-15-0	-----Carbon Disulfide	2	J
75-35-4	-----1,1-Dichloroethene	6	U
75-34-3	-----1,1-Dichloroethane	6	U
540-59-0	-----1,2-Dichloroethene (Total)	6	U
67-66-3	-----Chloroform	6	U
107-06-2	-----1,2-Dichloroethane	6	U
78-93-3	-----2-Butanone	13	U
71-55-6	-----1,1,1-Trichloroethane	6	U
56-23-5	-----Carbon Tetrachloride	6	U
108-05-4	-----Vinyl Acetate	13	U
75-27-4	-----Bromodichloromethane	6	U
78-87-5	-----1,2-Dichloropropane	6	U
10061-02-6	-----trans-1,3-Dichloropropene	6	U
79-01-6	-----Trichloroethene	6	U
124-48-1	-----Dibromochloromethane	6	U
79-00-5	-----1,1,2-Trichloroethane	6	U
71-43-2	-----Benzene	6	U
10061-01-5	-----cis-1,3-Dichloropropene	6	U
75-25-2	-----Bromoform	6	U
591-78-6	-----2-Hexanone	13	U
108-10-1	-----4-Methyl-2-Pentanone	13	U
127-18-4	-----Tetrachloroethene	6	U
79-34-5	-----1,1,2,2-Tetrachloroethane	6	U
108-88-3	-----Toluene	6	U
108-90-7	-----Chlorobenzene	6	U
100-41-4	-----Ethylbenzene	6	U
100-42-5	-----Styrene	6	U
1330-20-7	-----Xylene (total)	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ76RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: RRZ76

Sample wt/vol: 5.003 (g/mL) G

Lab File ID: RRZ76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.24	10	J
2.	UNKNOWN	26.67	7	J
3.				
4.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ77

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: REZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

74-87-3-----	Chloromethane	12	U
74-83-9-----	Bromomethane	12	U
75-01-4-----	Vinyl Chloride	12	U
75-00-3-----	Chloroethane	12	U
75-09-2-----	Methylene Chloride	14	U
67-64-1-----	Acetone	12	U
75-15-0-----	Carbon Disulfide	72	U
75-35-4-----	1,1-Dichloroethene	6	U
75-34-3-----	1,1-Dichloroethane	6	U
540-59-0-----	1,2-Dichloroethene (Total)	6	U
67-66-3-----	Chloroform	6	U
107-06-2-----	1,2-Dichloroethane	6	U
78-93-3-----	2-Butanone	13	U
71-55-6-----	1,1,1-Trichloroethane	6	U
56-23-5-----	Carbon Tetrachloride	6	U
108-05-4-----	Vinyl Acetate	12	U
75-27-4-----	Bromodichloromethane	6	U
78-87-5-----	1,2-Dichloropropane	6	U
10061-02-6-----	trans-1,3-Dichloropropene	6	U
79-01-6-----	Trichloroethene	6	U
124-48-1-----	Dibromochloromethane	6	U
79-00-5-----	1,1,2-Trichloroethane	6	U
71-43-2-----	Benzene	6	U
10061-01-5-----	cis-1,3-Dichloropropene	6	U
75-25-2-----	Bromoform	6	U
591-78-6-----	2-Hexanone	12	U
108-10-1-----	4-Methyl-2-Pentanone	12	U
127-18-4-----	Tetrachloroethene	6	U
79-34-5-----	1,1,2,2-Tetrachloroethane	6	U
108-88-3-----	Toluene	6	U
108-90-7-----	Chlorobenzene	6	U
100-41-4-----	Ethylbenzene	6	U
100-42-5-----	Styrene	6	U
1330-20-7-----	Xylene (total)	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ77

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: REZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ77RE

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: RXZ77

Sample wt/vol: 5.010 (g/mL) G

Lab File ID: RXZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
127-18-4	Tetrachloroethene	7	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ77RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: RXZ77

Sample wt/vol: 5.010 (g/mL) G

Lab File ID: RXZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 1

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.05	8	J
2.				
3.				
4.				
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FORM 1 VOA-TIC

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ78

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ78

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: BEZ78

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	42	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

125

**ATTACHMENT 2**



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ78

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ78

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: BEZ78

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ78

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: REZ78

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
74-87-3	-----Chloromethane	12	U	
74-83-9	-----Bromomethane	12	U	
75-01-4	-----Vinyl Chloride	12	U	
75-00-3	-----Chloroethane	12	U	
75-09-2	-----Methylene Chloride	22	B	
67-64-1	-----Acetone	12	U	
75-15-0	-----Carbon Disulfide	6	U	
75-35-4	-----1,1-Dichloroethene	6	U	
75-34-3	-----1,1-Dichloroethane	6	U	
540-59-0	-----1,2-Dichloroethene (Total)	6	U	
67-66-3	-----Chloroform	6	U	
107-06-2	-----1,2-Dichloroethane	6	U	
78-93-3	-----2-Butanone	12	U	
71-55-6	-----1,1,1-Trichloroethane	6	U	
56-23-5	-----Carbon Tetrachloride	6	U	
108-05-4	-----Vinyl Acetate	12	U	
75-27-4	-----Bromodichloromethane	6	U	
78-87-5	-----1,2-Dichloropropane	6	U	
10061-02-6	-----trans-1,3-Dichloropropene	6	U	
79-01-6	-----Trichloroethene	6	U	
124-48-1	-----Dibromochloromethane	6	U	
79-00-5	-----1,1,2-Trichloroethane	6	U	
71-43-2	-----Benzene	6	U	
10061-01-5	-----cis-1,3-Dichloropropene	6	U	
75-25-2	-----Bromoform	6	U	
591-78-6	-----2-Hexanone	12	U	
108-10-1	-----4-Methyl-2-Pentanone	12	U	
127-18-4	-----Tetrachloroethene	6	U	
79-34-5	-----1,1,2,2-Tetrachloroethane	6	U	
108-88-3	-----Toluene	6	U	
108-90-7	-----Chlorobenzene	6	U	
100-41-4	-----Ethylbenzene	6	U	
100-42-5	-----Styrene	6	U	
1330-20-7	-----Xylene (total)	6	U	

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1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ78RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ78

Sample wt/vol: 4.999 (g/mL) G

Lab File ID: REZ78

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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## EPA SAMPLE NO.

BEZ79

Contract: 68-09-0027

SDG No. : BEZ67

Lab Sample ID: BEZ79

Lab File ID: BEZ79

Date Received: 06/27/90

Date Analyzed: 07/06/90

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Q

74-87-3	-----	Chloromethane
74-83-9	-----	Bromomethane
75-01-4	-----	Vinyl Chloride
75-00-3	-----	Chloroethane
75-09-2	-----	Methylene Chloride
67-64-1	-----	Acetone
75-15-0	-----	Carbon Disulfide
75-35-4	-----	1,1-Dichloroethene
75-34-3	-----	1,1-Dichloroethane
540-59-0	-----	1,2-Dichloroethene (Total)
67-66-3	-----	Chloroform
107-06-2	-----	1,2-Dichloroethane
78-93-3	-----	2-Butanone
71-55-6	-----	1,1,1-Trichloroethane
56-23-5	-----	Carbon Tetrachloride
108-05-4	-----	Vinyl Acetate
75-27-4	-----	Bromodichloromethane
78-87-5	-----	1,2-Dichloropropane
10061-02-6	-----	trans-1,3-Dichloropropene
79-01-6	-----	Trichloroethene
124-48-1	-----	Dibromochloromethane
79-00-5	-----	1,1,2-Trichloroethane
71-43-2	-----	Benzene
10061-01-5	-----	cis-1,3-Dichloropropene
75-25-2	-----	Bromoform
591-78-6	-----	2-Hexanone
108-10-1	-----	4-Methyl-2-Pentanone
127-18-4	-----	Tetrachloroethene
79-34-5	-----	1,1,2,2-Tetrachloroethane
108-88-3	-----	Toluene
108-90-7	-----	Chlorobenzene
100-41-4	-----	Ethylbenzene
100-42-5	-----	Styrene
1330-20-7	-----	Xylene (total)

13	U	J
13	U	
13	U	
13	U	
20	U	
13	U	
21	U	
7	U	
7	U	
7	U	
7	U	
7	U	
13	U	
7	U	
7	U	
13	U	
7	U	
7	U	
7	U	
7	U	
7	U	
7	U	
7	U	
13	U	
13	U	
5	U	
7	U	
42	U	
7	U	
8	U	
7	U	
120	U	



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ79

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ79

Sample wt/vol: 5.009 (g/mL) G

Lab File ID: BEZ79

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 24

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 3

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN C10H16	24.85	39	J
2.	UNKNOWN	26.63	5	J
3.	UNKNOWN	31.09	17	J
4.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ79

Sample wt/vol: 4.998 (g/mL) G

Lab File ID: REZ79

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 24

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	34	B
67-64-1	Acetone	420	E
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (Total)	2	J
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	41	
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-02-6	trans-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	3	J
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	
10061-01-5	cis-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	72	
127-18-4	Tetrachloroethene	9	
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	540	E
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	80	
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	260	

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ79

Sample wt/vol: 4.998 (g/mL) G

Lab File ID: REZ79

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 24

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.79	29	J
2.00075-43-4	METHANE, DICHLORODIFLUORO-	4.97	55	J
3.00000-12-6	METHANE, TRICHLOROFLUORO-	7.72	51	J
4.	UNKNOWN	13.22	18	J
5.	UNKNOWN C6H14	18.07	10	J
6.	UNKNOWN	22.21	14	J
7.	UNKNOWN C10H16	24.81	77	J
8.	UNKNOWN	25.39	21	J
9.	UNKNOWN	31.13	22	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ79

Sample wt/vol: 1.009 (g/mL) G

Lab File ID: DLZ79

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 24

Date Analyzed: 07/17/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

74-87-3-----	Chloromethane	66	U
74-83-9-----	Bromomethane	66	U
75-01-4-----	Vinyl Chloride	66	U
75-00-3-----	Chloroethane	66	U
75-09-2-----	Methylene Chloride	79	B
67-64-1-----	Acetone	720	D
75-15-0-----	Carbon Disulfide	69	B
75-35-4-----	1,1-Dichloroethene	33	U
75-34-3-----	1,1-Dichloroethane	33	U
540-59-0-----	1,2-Dichloroethene (Total)	33	U
67-66-3-----	Chloroform	33	U
107-06-2-----	1,2-Dichloroethane	33	U
78-93-3-----	2-Butanone	66	U
71-55-6-----	1,1,1-Trichloroethane	33	U
56-23-5-----	Carbon Tetrachloride	33	U
108-05-4-----	Vinyl Acetate	66	U
75-27-4-----	Bromodichloromethane	33	U
78-87-5-----	1,2-Dichloropropane	33	U
10061-02-6-----	trans-1,3-Dichloropropene	33	U
79-01-6-----	Trichloroethene	33	U
124-48-1-----	Dibromochloromethane	33	U
79-00-5-----	1,1,2-Trichloroethane	33	U
71-43-2-----	Benzene	33	U
10061-01-5-----	cis-1,3-Dichloropropene	33	U
75-25-2-----	Bromoform	33	U
591-78-6-----	2-Hexanone	66	U
108-10-1-----	4-Methyl-2-Pentanone	66	U
127-18-4-----	Tetrachloroethene	14	J
79-34-5-----	1,1,2,2-Tetrachloroethane	33	U
108-88-3-----	Toluene	370	D
108-90-7-----	Chlorobenzene	18	J
100-41-4-----	Ethylbenzene	120	
100-42-5-----	Styrene	33	U
1330-20-7-----	Xylene (total)	390	



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ79

Sample wt/vol: 1.009 (g/mL) G

Lab File ID: DLZ79

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 24

Date Analyzed: 07/17/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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## EPA SAMPLE NO.

Contract: 68-D9-0027

BE 280

SDG No.: BEZ67

Lab Sample ID: BEZ80

Lab File ID: BEZ80

Date Received: 06/27/90

Date Analyzed: 07/06/90

Dilution Factor: 1.000

G

COMPOUND

14	U
14	U
14	U
14	U
16	U
14	U
14	U
7	U
7	U
7	U
7	U
27	U
7	U
7	U
14	U
7	U
7	U
7	U
7	U
7	U
7	U
7	U
14	U
14	U
7	U
7	U
30	U
7	U
3	U
7	U
8	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ80

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ80

Sample wt/vol: 5.016 (g/mL) G

Lab File ID: BEZ80

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 30

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.89	13	J
2.	UNKNOWN	28.53	11	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ80RE

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ80

Sample wt/vol: 5.006 (g/mL) G

Lab File ID: REZ80

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 30

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	14 U
74-83-9	Bromomethane	14 U
75-01-4	Vinyl Chloride	14 U
75-00-3	Chloroethane	14 U
75-09-2	Methylene Chloride	28 B
67-64-1	Acetone	100
75-15-0	Carbon Disulfide	7 U
75-35-4	1,1-Dichloroethene	7 U
75-34-3	1,1-Dichloroethane	7 U
540-59-0	1,2-Dichloroethene (Total)	7 U
67-66-3	Chloroform	7 U
107-06-2	1,2-Dichloroethane	7 U
78-93-3	2-Butanone	7 J
71-55-6	1,1,1-Trichloroethane	7 U
56-23-5	Carbon Tetrachloride	7 U
108-05-4	Vinyl Acetate	14 U
75-27-4	Bromodichloromethane	7 U
78-87-5	1,2-Dichloropropane	7 U
10061-02-6	trans-1,3-Dichloropropene	7 U
79-01-6	Trichloroethene	7 U
124-48-1	Dibromochloromethane	7 U
79-00-5	1,1,2-Trichloroethane	7 U
71-43-2	Benzene	7 U
10061-01-5	cis-1,3-Dichloropropene	7 U
75-25-2	Bromoform	7 U
591-78-6	2-Hexanone	14 U
108-10-1	4-Methyl-2-Pentanone	14 U
127-18-4	Tetrachloroethene	7 U
79-34-5	1,1,2,2-Tetrachloroethane	7 U
108-88-3	Toluene	110
108-90-7	Chlorobenzene	7 U
100-41-4	Ethylbenzene	3 J
100-42-5	Styrene	7 U
1330-20-7	Xylene (total)	4 J



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ80RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ80

Sample wt/vol: 5.006 (g/mL) G

Lab File ID: REZ80

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 30

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.79	21	J
2.	UNKNOWN	31.38	13	J
3.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 5.009 (g/mL) G

Lab File ID: BEZ81

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 23

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	30	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	87	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	3	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 5.009 (g/mL) G

Lab File ID: BEZ81

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 23

Date Analyzed: 07/06/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	28.68	100	JN
2.	UNKNOWN	31.01	14	JN
3.				
4.				
5.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81RE

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ81

Sample wt/vol: 5.007 (g/mL) G

Lab File ID: REZ81

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 23

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	41	B
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	87	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

FORM 1 VOA

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1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ81RE

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: REZ81

Sample wt/vol: 5.007 (g/mL) G

Lab File ID: REZ81

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 23

Date Analyzed: 07/12/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 1

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	31.35	14	J
2.				
3.				
4.				
5.				
6.				
7.				
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9.				
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FORM 1 VOA-TIC

1/87 Rev.

015

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ83

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ83

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----Chloromethane_____	10	U
74-83-9-----Bromomethane_____	10	U
75-01-4-----Vinyl Chloride_____	10	U
75-00-3-----Chloroethane_____	10	U
75-09-2-----Methylene Chloride_____	5	U
67-64-1-----Acetone_____	10	U
75-15-0-----Carbon Disulfide_____	5	U
75-35-4-----1,1-Dichloroethene_____	5	U
75-34-3-----1,1-Dichloroethane_____	5	U
540-59-0-----1,2-Dichloroethene (Total)_____	5	U
67-66-3-----Chloroform_____	5	U
107-06-2-----1,2-Dichloroethane_____	5	U
78-93-3-----2-Butanone_____	10	U
71-55-6-----1,1,1-Trichloroethane_____	5	U
56-23-5-----Carbon Tetrachloride_____	5	U
108-05-4-----Vinyl Acetate_____	10	U
75-27-4-----Bromodichloromethane_____	5	U
78-87-5-----1,2-Dichloropropane_____	5	U
10061-02-6-----trans-1,3-Dichloropropene_____	5	U
79-01-6-----Trichloroethene_____	5	U
124-48-1-----Dibromochloromethane_____	5	U
79-00-5-----1,1,2-Trichloroethane_____	5	U
71-43-2-----Benzene_____	5	U
10061-01-5-----cis-1,3-Dichloropropene_____	5	U
75-25-2-----Bromoform_____	5	U
591-78-6-----2-Hexanone_____	10	U
108-10-1-----4-Methyl-2-Pentanone_____	10	U
127-18-4-----Tetrachloroethene_____	5	U
79-34-5-----1,1,2,2-Tetrachloroethane_____	5	U
108-88-3-----Toluene_____	5	U
108-90-7-----Chlorobenzene_____	5	U
100-41-4-----Ethylbenzene_____	5	U
100-42-5-----Styrene_____	5	U
1330-20-7-----Xylene (total)_____	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ83

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ83

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-09-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ84

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----Chloromethane	10	U
74-83-9-----Bromomethane	10	U
75-01-4-----Vinyl Chloride	10	U
75-00-3-----Chloroethane	10	U
75-09-2-----Methylene Chloride	5	U
67-64-1-----Acetone	10	U
75-15-0-----Carbon Disulfide	5	U
75-35-4-----1,1-Dichloroethene	5	U
75-34-3-----1,1-Dichloroethane	5	U
540-59-0-----1,2-Dichloroethene (Total)	5	U
67-66-3-----Chloroform	1	J
107-06-2-----1,2-Dichloroethane	5	U
78-93-3-----2-Butanone	10	U
71-55-6-----1,1,1-Trichloroethane	5	U
56-23-5-----Carbon Tetrachloride	5	U
108-05-4-----Vinyl Acetate	10	U
75-27-4-----Bromodichloromethane	5	U
78-87-5-----1,2-Dichloropropane	5	U
10061-02-6-----trans-1,3-Dichloropropene	5	U
79-01-6-----Trichloroethene	5	U
124-48-1-----Dibromochloromethane	5	U
79-00-5-----1,1,2-Trichloroethane	5	U
71-43-2-----Benzene	5	U
10061-01-5-----cis-1,3-Dichloropropene	5	U
75-25-2-----Bromoform	5	U
591-78-6-----2-Hexanone	10	U
108-10-1-----4-Methyl-2-Pentanone	10	U
127-18-4-----Tetrachloroethene	5	U
79-34-5-----1,1,2,2-Tetrachloroethane	5	U
108-88-3-----Toluene	5	U
108-90-7-----Chlorobenzene	5	U
100-41-4-----Ethylbenzene	5	U
100-42-5-----Styrene	5	U
1330-20-7-----Xylene (total)	5	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ84

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ85

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	2	J
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	5	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (Total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-02-6	-----trans-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
591-78-6	-----2-Hexanone	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Xylene (total)	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ85

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ86

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec.

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	3	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (Total)	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ86

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec.

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ87

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ87

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ87

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec.

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	3	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (Total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ87

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ87

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: BEZ87

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/05/90

Column: (pack/cap) PACK

Dilution Factor: 1.000

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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18  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ67

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

SPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	bis(2-Chloroisopropyl)ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-di-n-propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic acid	7	J
111-91-1-----	bis(2-Chloroethoxy)methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U



1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ67

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	2	J
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Name: S-CUBED

Contract: 68-D9-0027

BEZ67

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ67

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

C Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

Number TICs found: 20

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.36	26	JN
2.	UNKNOWN	10.62	85	J
3.	UNKNOWN C7H8S	13.18	50	J
4.	UNKNOWN C7H8S	13.23	31	J
5.	UNKNOWN	18.39	8	J
6.	UNKNOWN	19.47	6	J
7.	UNKNOWN	23.89	8	J
8.	UNKNOWN	24.67	21	JB
9.	UNKNOWN	25.26	13	JB
10.	UNKNOWN	26.29	7	J
11.	UNKNOWN	26.71	11	JB
12.	UNKNOWN C18H22	27.37	18	JB
13.	UNKNOWN	27.81	22	J
14.	UNKNOWN	33.43	9	J
15.	UNKNOWN	33.97	9	J
16.	UNKNOWN	36.04	12	JB
17.	UNKNOWN	37.31	29	JB
18.	UNKNOWN	38.52	28	JB
19.	UNKNOWN	39.87	24	JB
20.	UNKNOWN	41.44	16	JB
21.				
22.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ68

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	5	J
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	8	J
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ68

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	38	
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ68

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

Number TICs found: 20

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.34	17	J
2.	UNKNOWN C6H6S	10.60	30	J
3.	UNKNOWN	11.60	33	J
4.	UNKNOWN	12.17	16	J
5.00137-06-4	BENZENETHIOL, 2-METHYL-	13.16	19	J
6.	UNKNOWN	23.89	11	J
7.	UNKNOWN HYDROCARBON	24.32	15	J
8.	UNKNOWN	24.67	31	JB
9.	UNKNOWN	25.24	18	JB
10.	UNKNOWN	25.92	10	J
11.	UNKNOWN	26.30	16	J
12.	UNKNOWN C18H22	26.71	15	JB
13.	UNKNOWN C18H22	27.36	22	JB
14.	UNKNOWN	27.78	16	J
15.	UNKNOWN ACID	28.04	37	J
16.	UNKNOWN	36.03	15	JB
17.	UNKNOWN	37.29	30	JB
18.	UNKNOWN HYDROCARBON	37.84	20	J
19.	UNKNOWN	38.52	29	JB
20.	UNKNOWN	39.86	24	JB
21.				
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: RRZ69

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	
111-44-4	bis(2-Chloroethyl)ether	10	
95-57-8	2-Chlorophenol	10	
541-73-1	1,3-Dichlorobenzene	10	
106-46-7	1,4-Dichlorobenzene	10	
100-51-6	Benzyl alcohol	10	
95-50-1	1,2-Dichlorobenzene	10	
95-48-7	2-Methylphenol	10	
108-60-1	bis(2-Chloroisopropyl)ether	10	
106-44-5	4-Methylphenol	10	
621-64-7	N-Nitroso-di-n-propylamine	10	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	10	
78-59-1	Isophorone	10	
88-75-5	2-Nitrophenol	10	
105-67-9	2,4-Dimethylphenol	10	
65-85-0	Benzoic acid	50	
111-91-1	bis(2-Chloroethoxy)methane	10	
120-83-2	2,4-Dichlorophenol	10	
120-82-1	1,2,4-Trichlorobenzene	10	
91-20-3	Naphthalene	10	
106-47-8	4-Chloroaniline	10	
87-68-3	Hexachlorobutadiene	10	
59-50-7	4-Chloro-3-methylphenol	10	
91-57-6	2-Methylnaphthalene	10	
77-47-4	Hexachlorocyclopentadiene	10	
88-06-2	2,4,6-Trichlorophenol	10	
95-95-4	2,4,5-Trichlorophenol	50	
91-58-7	2-Chloronaphthalene	10	
88-74-4	2-Nitroaniline	50	
131-11-3	Dimethylphthalate	10	
208-96-8	Acenaphthylene	10	
606-20-2	2,6-Dinitrotoluene	10	

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: RRZ69

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/27/90

C Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	7	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

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## EPA SAMPLE NO.

**Contract: 68-D9-0027**

**BEZ69**

SDG No.: BEZ67

Lab Sample ID: BEZ69

Lab File ID: RRZ69

Date Received: 06/27/90

**Date Extracted: 07/27/90**

Date Analyzed: 07/27/90

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

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18  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED

Contract: 68-09-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: RRZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y

pH: 8.6

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	bis(2-Chloroisopropyl)ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic acid	5800	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	5800	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	5800	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	270	J
606-20-2	2,6-Dinitrotoluene	1200	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: RRZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	5800	U
83-32-9-----	Acenaphthene	1200	U
51-28-5-----	2,4-Dinitrophenol	5800	U
100-02-7-----	4-Nitrophenol	5800	U
132-64-9-----	Dibenzofuran	1200	U
121-14-2-----	2,4-Dinitrotoluene	1200	U
84-66-2-----	Diethylphthalate	1200	U
7005-72-3-----	4-Chlorophenyl-phenylether	1200	U
86-73-7-----	Fluorene	1200	U
100-01-6-----	4-Nitroaniline	5800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	5800	U
86-30-6-----	N-Nitrosodiphenylamine (1)	1200	U
101-55-3-----	4-Bromophenyl-phenylether	1200	U
118-74-1-----	Hexachlorobenzene	1200	U
87-86-5-----	Pentachlorophenol	5800	U
85-01-8-----	Phenanthrene	1100	J
120-12-7-----	Anthracene	200	J
84-74-2-----	Di-n-butylphthalate	710	J
206-44-0-----	Fluoranthene	2100	
129-00-0-----	Pyrene	1900	
85-68-7-----	Butylbenzylphthalate	470	J
91-94-1-----	3,3'-Dichlorobenzidine	2400	U
56-55-3-----	Benzo(a)anthracene	840	J
218-01-9-----	Chrysene	530	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	2100	
117-84-0-----	Di-n-octylphthalate	1200	U
205-99-2-----	Benzo(b)fluoranthene	1000	J
207-08-9-----	Benzo(k)fluoranthene	660	J
50-32-8-----	Benzo(a)pyrene	790	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	140	J
53-70-3-----	Dibenz(a,h)anthracene	1200	U
191-24-2-----	Benzo(g,h,i)perylene	1200	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: RRZ70

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 46 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.6

Dilution Factor: 1.000

Number TICs found: 20

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.25	900	J
2.	UNKNOWN	25.21	400	J
3.	UNKNOWN C15H12	27.24	320	J
4.	UNKNOWN HYDROCARBON	28.29	340	J
5.	UNKNOWN	30.29	380	J
6.	UNKNOWN C17H12, PAH	31.29	590	J
7.	UNKNOWN HYDROCARBON	32.96	450	J
8.	UNKNOWN	33.14	400	J
9.	UNKNOWN HYDROCARBON	35.00	2400	J
10.	UNKNOWN	35.07	1000	J
11.	UNKNOWN	35.57	500	J
12.	UNKNOWN HYDROCARBON	35.98	3000	J
13.	UNKNOWN HYDROCARBON	36.92	5900	J
14.	UNKNOWN HYDROCARBON	37.82	6200	J
15.	UNKNOWN HYDROCARBON	38.71	4000	J
16.	UNKNOWN HYDROCARBON	39.71	3500	J
17.	UNKNOWN	40.01	1200	J
18.	UNKNOWN HYDROCARBON	40.83	1200	J
19.	UNKNOWN	41.00	1100	J
20.	UNKNOWN	41.27	910	J
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ71

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: REZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 7.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	2400	U
111-44-4-----	bis(2-Chloroethyl)ether	2400	U
95-57-8-----	2-Chlorophenol	2400	U
541-73-1-----	1,3-Dichlorobenzene	520	J
106-46-7-----	1,4-Dichlorobenzene	510	J
100-51-6-----	Benzyl alcohol	2400	U
95-50-1-----	1,2-Dichlorobenzene	2500	
95-48-7-----	2-Methylphenol	2400	U
108-60-1-----	bis(2-Chloroisopropyl)ether	2400	U
106-44-5-----	4-Methylphenol	2400	U
621-64-7-----	N-Nitroso-di-n-propylamine	2200	J
67-72-1-----	Hexachloroethane	2400	U
98-95-3-----	Nitrobenzene	2400	U
78-59-1-----	Isophorone	2400	U
88-75-5-----	2-Nitrophenol	2400	U
105-67-9-----	2,4-Dimethylphenol	2400	U
65-85-0-----	Benzoic acid	11000	U
111-91-1-----	bis(2-Chloroethoxy)methane	2400	U
120-83-2-----	2,4-Dichlorophenol	2400	U
120-82-1-----	1,2,4-Trichlorobenzene	2400	U
91-20-3-----	Naphthalene	4400	
106-47-8-----	4-Chloroaniline	2400	U
87-68-3-----	Hexachlorobutadiene	2400	U
59-50-7-----	4-Chloro-3-methylphenol	2400	U
91-57-6-----	2-Methylnaphthalene	820	J
77-47-4-----	Hexachlorocyclopentadiene	2400	U
88-06-2-----	2,4,6-Trichlorophenol	2400	U
95-95-4-----	2,4,5-Trichlorophenol	11000	U
91-58-7-----	2-Chloronaphthalene	2400	U
88-74-4-----	2-Nitroaniline	11000	U
131-11-3-----	Dimethylphthalate	2400	U
208-96-8-----	Acenaphthylene	2400	U
606-20-2-----	2,6-Dinitrotoluene	2400	U



1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ71

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: REZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 7.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	11000	U
83-32-9-----	Acenaphthene	2400	U
51-28-5-----	2,4-Dinitrophenol	11000	U
100-02-7-----	4-Nitrophenol	11000	U
132-64-9-----	Dibenzofuran	2400	U
121-14-2-----	2,4-Dinitrotoluene	2400	U
84-66-2-----	Diethylphthalate	320	J
7005-72-3-----	4-Chlorophenyl-phenylether	2400	U
86-73-7-----	Fluorene	350	J
100-01-6-----	4-Nitroaniline	11000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	11000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	2400	U
101-55-3-----	4-Bromophenyl-phenylether	2400	U
118-74-1-----	Hexachlorobenzene	2400	U
87-86-5-----	Pentachlorophenol	11000	U
85-01-8-----	Phenanthrene	1400	J
120-12-7-----	Anthracene	320	J
84-74-2-----	Di-n-butylphthalate	2400	U
206-44-0-----	Fluoranthene	1600	J
129-00-0-----	Pyrene	1500	J
85-68-7-----	Butylbenzylphthalate	280	J
91-94-1-----	3,3'-Dichlorobenzidine	4700	U
56-55-3-----	Benzo(a)anthracene	660	J
218-01-9-----	Chrysene	820	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	24000	
117-84-0-----	Di-n-octylphthalate	540	J
205-99-2-----	Benzo(b)fluoranthene	1200	J
207-08-9-----	Benzo(k)fluoranthene	810	J
50-32-8-----	Benzo(a)pyrene	830	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	2400	U
53-70-3-----	Dibenz(a,h)anthracene	2400	U
191-24-2-----	Benzo(g,h,i)perylene	2400	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: REZ71

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 7.6

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 18

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.53	370	J
2.	UNKNOWN BENZENE, TRIMETHYL-	11.28	430	J
3.	UNKNOWN HYDROCARBON	12.02	600	J
4.	UNKNOWN HYDROCARBON	12.30	270	J
5.	UNKNOWN	12.37	400	J
6.	UNKNOWN	12.74	430	J
7.	UNKNOWN	12.81	370	J
8.	UNKNOWN HYDROCARBON	12.88	370	J
9.	UNKNOWN HYDROCARBON	12.96	500	J
10.	UNKNOWN HYDROCARBON	13.11	430	J
11.	UNKNOWN BENZENE, TETRAMETHYL	14.11	290	J
12.	UNKNOWN BENZENE, TETRAMETHYL	14.19	210	J
13.	UNKNOWN HYDROCARBON	14.32	190	J
14.	UNKNOWN	14.88	21	J
15.	UNKNOWN	17.86	600	J
16.	UNKNOWN HYDROCARBON	24.23	180	J
17.	UNKNOWN HYDROCARBON	24.32	240	J
18.	UNKNOWN C18H22	29.87	80	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ72

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G

Lab File ID: BEZ72

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 21 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	840	U
111-44-4	bis(2-Chloroethyl)ether	840	U
95-57-8	2-Chlorophenol	840	U
541-73-1	1,3-Dichlorobenzene	840	U
106-46-7	1,4-Dichlorobenzene	840	U
100-51-6	Benzyl alcohol	840	U
95-50-1	1,2-Dichlorobenzene	840	U
95-48-7	2-Methylphenol	840	U
108-60-1	bis(2-Chloroisopropyl)ether	840	U
106-44-5	4-Methylphenol	840	U
621-64-7	N-Nitroso-di-n-propylamine	840	U
67-72-1	Hexachloroethane	840	U
98-95-3	Nitrobenzene	840	U
78-59-1	Isophorone	840	U
88-75-5	2-Nitrophenol	840	U
105-67-9	2,4-Dimethylphenol	840	U
65-85-0	Benzoic acid	4100	U
111-91-1	bis(2-Chloroethoxy)methane	840	U
120-83-2	2,4-Dichlorophenol	840	U
120-82-1	1,2,4-Trichlorobenzene	840	U
91-20-3	Naphthalene	200	J
106-47-8	4-Chloroaniline	840	U
87-68-3	Hexachlorobutadiene	840	U
59-50-7	4-Chloro-3-methylphenol	840	U
91-57-6	2-Methylnaphthalene	840	U
77-47-4	Hexachlorocyclopentadiene	840	U
88-06-2	2,4,6-Trichlorophenol	840	U
95-95-4	2,4,5-Trichlorophenol	4100	U
91-58-7	2-Chloronaphthalene	840	U
88-74-4	2-Nitroaniline	4100	U
131-11-3	Dimethylphthalate	840	U
208-96-8	Acenaphthylene	840	U
606-20-2	2,6-Dinitrotoluene	840	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ72

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G

Lab File ID: BEZ72

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 21 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
99-09-2	3-Nitroaniline	4100	U
83-32-9	Acenaphthene	840	U
51-28-5	2,4-Dinitrophenol	4100	U
100-02-7	4-Nitrophenol	4100	U
132-64-9	Dibenzofuran	840	U
121-14-2	2,4-Dinitrotoluene	840	U
84-66-2	Diethylphthalate	840	U
7005-72-3	4-Chlorophenyl-phenylether	840	U
86-73-7	Fluorene	840	U
100-01-6	4-Nitroaniline	4100	U
534-52-1	4,6-Dinitro-2-methylphenol	4100	U
86-30-6	N-Nitrosodiphenylamine (1)	840	U
101-55-3	4-Bromophenyl-phenylether	840	U
118-74-1	Hexachlorobenzene	840	U
87-86-5	Pentachlorophenol	4100	U
85-01-3	Phenanthrene	1400	
120-12-7	Anthracene	290	J
84-74-2	Di-n-butylphthalate	840	U
206-44-0	Fluoranthene	2500	
129-00-0	Pyrene	1900	
85-68-7	Butylbenzylphthalate	840	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)anthracene	1200	
218-01-9	Chrysene	1400	
117-81-7	bis(2-Ethylhexyl)phthalate	230	J
117-84-0	Di-n-octylphthalate	840	U
205-99-2	Benzo(b)fluoranthene	2800	
207-08-9	Benzo(k)fluoranthene	1400	J
50-32-8	Benzo(a)pyrene	1400	
193-39-5	Indeno(1,2,3-cd)pyrene	650	J
53-70-3	Dibenz(a,h)anthracene	290	J
191-24-2	Benzo(g,h,i)perylene	630	J

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G

Lab File ID: BEZ72

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 21 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

Number TICs found: 17

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.33	630	J
2.	UNKNOWN PAH	27.68	340	J
3.	UNKNOWN C17H12, PAH	31.36	440	J
4.	UNKNOWN C17H12, PAH	31.94	320	J
5.	UNKNOWN PAH	34.43	340	J
6.	UNKNOWN C19H14, PAH	35.40	340	J
7.	UNKNOWN	36.06	870	JB
8.	UNKNOWN HYDROCARBON	36.97	370	J
9.	UNKNOWN C20H12, PAH	37.34	2100	J
10.	UNKNOWN C20H12, PAH	37.56	360	J
11.	UNKNOWN HYDROCARBON	37.86	560	J
12.	UNKNOWN C20H12, PAH	38.02	1200	J
13.	UNKNOWN	38.54	1400	JB
14.	UNKNOWN HYDROCARBON	39.82	320	J
15.	UNKNOWN	39.89	1200	JB
16.	UNKNOWN	41.47	740	JB
17.	UNKNOWN	43.39	500	J
18.				
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: REZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG Q
108-95-2	Phenol	740	U
111-44-4	bis(2-Chloroethyl)ether	740	U
95-57-8	2-Chlorophenol	740	U
541-73-1	1,3-Dichlorobenzene	740	U
106-46-7	1,4-Dichlorobenzene	740	U
100-51-6	Benzyl alcohol	740	U
95-50-1	1,2-Dichlorobenzene	740	U
95-48-7	2-Methylphenol	740	U
108-60-1	bis(2-Chloroisopropyl)ether	740	U
106-44-5	4-Methylphenol	740	U
621-64-7	N-Nitroso-di-n-propylamine	740	U
67-72-1	Hexachloroethane	740	U
98-95-3	Nitrobenzene	740	U
78-59-1	Isophorone	740	U
88-75-5	2-Nitrophenol	740	U
105-67-9	2,4-Dimethylphenol	740	U
65-85-0	Benzoic acid	3600	U
111-91-1	bis(2-Chloroethoxy)methane	740	U
120-83-2	2,4-Dichlorophenol	740	U
120-82-1	1,2,4-Trichlorobenzene	740	U
91-20-3	Naphthalene	740	U
106-47-8	4-Chloroaniline	740	U
87-68-3	Hexachlorobutadiene	740	U
59-50-7	4-Chloro-3-methylphenol	740	U
91-57-6	2-Methylnaphthalene	740	U
77-47-4	Hexachlorocyclopentadiene	740	U
88-06-2	2,4,6-Trichlorophenol	740	U
95-95-4	2,4,5-Trichlorophenol	3600	U
91-58-7	2-Chloronaphthalene	740	U
88-74-4	2-Nitroaniline	3600	U
131-11-3	Dimethylphthalate	740	U
208-96-8	Acenaphthylene	740	U
606-20-2	2,6-Dinitrotoluene	740	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ73

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: REZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	3600	U
83-32-9-----	Acenaphthene	79	J
51-28-5-----	2,4-Dinitrophenol	3600	U
100-02-7-----	4-Nitrophenol	3600	U
132-64-9-----	Dibenzofuran	97	J
121-14-2-----	2,4-Dinitrotoluene	740	U
84-66-2-----	Diethylphthalate	85	J
7005-72-3-----	4-Chlorophenyl-phenylether	740	U
86-73-7-----	Fluorene	83	J
100-01-6-----	4-Nitroaniline	3600	U
534-52-1-----	4,6-Dinitro-2-methylphenol	3600	U
86-30-6-----	N-Nitrosodiphenylamine (1)	740	U
101-55-3-----	4-Bromophenyl-phenylether	740	U
118-74-1-----	Hexachlorobenzene	740	U
87-86-5-----	Pentachlorophenol	3600	U
85-01-8-----	Phenanthrene	1200	
120-12-7-----	Anthracene	190	J
84-74-2-----	Di-n-butylphthalate	740	U
206-44-0-----	Fluoranthene	1500	
129-00-0-----	Pyrene	1200	
85-68-7-----	Butylbenzylphthalate	740	U
91-94-1-----	3,3'-Dichlorobenzidine	1500	U
56-55-3-----	Benzo(a)anthracene	600	J
218-01-9-----	Chrysene	620	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	290	J
117-84-0-----	Di-n-octylphthalate	740	U
205-99-2-----	Benzo(b)fluoranthene	790	
207-08-9-----	Benzo(k)fluoranthene	500	J
50-32-8-----	Benzo(a)pyrene	640	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	230	J
53-70-3-----	Dibenz(a,h)anthracene	740	U
191-24-2-----	Benzo(g,h,i)perylene	200	J

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: REZ73

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.22	760	J
2.	UNKNOWN C15H12, PAH	27.21	260	J
3.	UNKNOWN C15H12, PAH	27.29	290	J
4.	UNKNOWN C15H12, PAH	27.55	290	J
5.	UNKNOWN	28.21	260	J
6.	UNKNOWN C17H12, PAH	31.23	310	J
7.	UNKNOWN C17H12, PAH	31.56	290	J
8.	UNKNOWN C17H12, PAH	31.82	310	J
9.	UNKNOWN	32.91	240	J
10.	UNKNOWN	33.12	380	JB
11.	UNKNOWN	35.93	1100	JB
12.	UNKNOWN	36.95	280	J
13.	UNKNOWN C20H12, PAH	37.21	2000	J
14.	UNKNOWN	38.41	1500	JB
15.	UNKNOWN	39.72	1400	JB
16.	UNKNOWN	39.94	330	JB
17.	UNKNOWN	40.94	380	J
18.	UNKNOWN	41.26	950	JB
19.	UNKNOWN	43.14	500	J
20.	UNKNOWN	45.46	280	J
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: BEZ74

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	750	U
111-44-4	bis(2-Chloroethyl)ether	750	U
95-57-8	2-Chlorophenol	750	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
100-51-6	Benzyl alcohol	750	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	750	U
108-60-1	bis(2-Chloroisopropyl)ether	750	U
106-44-5	4-Methylphenol	750	U
621-64-7	N-Nitroso-di-n-propylamine	750	U
67-72-1	Hexachloroethane	750	U
98-95-3	Nitrobenzene	750	U
78-59-1	Isophorone	750	U
88-75-5	2-Nitrophenol	750	U
105-67-9	2,4-Dimethylphenol	750	U
65-85-0	Benzoic acid	3700	U
111-91-1	bis(2-Chloroethoxy)methane	750	U
120-83-2	2,4-Dichlorophenol	750	U
120-82-1	1,2,4-Trichlorobenzene	750	U
91-20-3	Naphthalene	750	U
106-47-8	4-Chloroaniline	750	U
87-68-3	Hexachlorobutadiene	750	U
59-50-7	4-Chloro-3-methylphenol	750	U
91-57-6	2-Methylnaphthalene	750	U
77-47-4	Hexachlorocyclopentadiene	750	U
88-06-2	2,4,6-Trichlorophenol	750	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	750	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	750	U
208-96-8	Acenaphthylene	750	U
606-20-2	2,6-Dinitrotoluene	750	U

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: BEZ74

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	180	J
51-28-5	2,4-Dinitrophenol	3700	U
100-02-7	4-Nitrophenol	3700	U
132-64-9	Dibenzofuran	750	U
121-14-2	2,4-Dinitrotoluene	750	U
84-66-2	Diethylphthalate	750	U
7005-72-3	4-Chlorophenyl-phenylether	750	U
86-73-7	Fluorene	180	J
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	3700	U
86-30-6	N-Nitrosodiphenylamine (1)	750	U
101-55-3	4-Bromophenyl-phenylether	750	U
118-74-1	Hexachlorobenzene	1100	
87-86-5	Pentachlorophenol	3700	U
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	320	J
84-74-2	Di-n-butylphthalate	750	U
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	750	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	730	J
218-01-9	Chrysene	810	
117-81-7	bis(2-Ethylhexyl)phthalate	280	J
117-84-0	Di-n-octylphthalate	750	U
205-99-2	Benzo(b)fluoranthene	570	
207-08-9	Benzo(k)fluoranthene	1100	
50-32-8	Benzo(a)pyrene	780	
193-39-5	Indeno(1,2,3-cd)pyrene	210	J
53-70-3	Dibenz(a,h)anthracene	750	U
191-24-2	Benzo(g,h,i)perylene	750	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: BEZ74

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 13

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.33	640	J
2.00058-89-9	LINDANE	25.38	4000	J
3.	UNKNOWN PAH	27.35	370	J
4.	UNKNOWN PAH	27.70	330	J
5.	UNKNOWN ISOMER OF DDD	31.11	540	J
6.	UNKNOWN C17H12, PAH	31.38	350	J
7.	UNKNOWN	31.51	690	J
8.	UNKNOWN ISOMER OF DDD	31.93	1700	J
9.	UNKNOWN	35.88	870	J
10.	UNKNOWN	36.06	620	JB
11.	UNKNOWN C20H12, PAH	37.33	1700	J
12.	UNKNOWN HYDROCARBON	37.87	500	J
13.	UNKNOWN C20H12, PAH	38.02	560	J
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1/87 Rev.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: RRR76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20 dec.

Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	830	U
111-44-4-----	bis(2-Chloroethyl)ether	830	U
95-57-8-----	2-Chlorophenol	830	U
541-73-1-----	1,3-Dichlorobenzene	830	U
106-46-7-----	1,4-Dichlorobenzene	830	U
100-51-6-----	Benzyl alcohol	830	U
95-50-1-----	1,2-Dichlorobenzene	830	U
95-48-7-----	2-Methylphenol	830	U
108-60-1-----	bis(2-Chloroisopropyl)ether	830	U
106-44-5-----	4-Methylphenol	830	U
621-64-7-----	N-Nitroso-di-n-propylamine	830	U
67-72-1-----	Hexachloroethane	830	U
98-95-3-----	Nitrobenzene	830	U
78-59-1-----	Isophorone	830	U
88-75-5-----	2-Nitrophenol	830	U
105-67-9-----	2,4-Dimethylphenol	830	U
65-85-0-----	Benzoic acid	4000	U
111-91-1-----	bis(2-Chloroethoxy)methane	830	U
120-83-2-----	2,4-Dichlorophenol	830	U
120-82-1-----	1,2,4-Trichlorobenzene	830	U
91-20-3-----	Naphthalene	830	U
106-47-8-----	4-Chloroaniline	830	U
87-68-3-----	Hexachlorobutadiene	830	U
59-50-7-----	4-Chloro-3-methylphenol	830	U
91-57-6-----	2-Methylnaphthalene	830	U
77-47-4-----	Hexachlorocyclopentadiene	830	U
88-06-2-----	2,4,6-Trichlorophenol	830	U
95-95-4-----	2,4,5-Trichlorophenol	4000	U
91-58-7-----	2-Chloronaphthalene	830	U
88-74-4-----	2-Nitroaniline	4000	U
131-11-3-----	Dimethylphthalate	830	U
208-96-8-----	Acenaphthylene	240	U
606-20-2-----	2,6-Dinitrotoluene	830	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: RRR76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20 dec.

Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	4000	U
83-32-9-----	Acenaphthene	830	U
51-28-5-----	2,4-Dinitrophenol	4000	U
100-02-7-----	4-Nitrophenol	4000	U
132-64-9-----	Dibenzofuran	830	U
121-14-2-----	2,4-Dinitrotoluene	830	U
84-66-2-----	Diethylphthalate	150	U
7005-72-3-----	4-Chlorophenyl-phenylether	830	U
86-73-7-----	Fluorene	830	U
100-01-6-----	4-Nitroaniline	4000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	4000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	830	U
101-55-3-----	4-Bromophenyl-phenylether	830	U
118-74-1-----	Hexachlorobenzene	830	U
87-86-5-----	Pentachlorophenol	4000	U
85-01-8-----	Phenanthrene	730	U
120-12-7-----	Anthracene	240	U
84-74-2-----	Di-n-butylphthalate	500	U
206-44-0-----	Fluoranthene	1600	U
129-00-0-----	Pyrene	1700	U
85-68-7-----	Butylbenzylphthalate	770	U
91-94-1-----	3,3'-Dichlorobenzidine	1700	U
56-55-3-----	Benzo(a)anthracene	830	U
218-01-9-----	Chrysene	840	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	7200	U
117-84-0-----	Di-n-octylphthalate	140	U
205-99-2-----	Benzo(b)fluoranthene	1300	U
207-08-9-----	Benzo(k)fluoranthene	1100	U
50-32-8-----	Benzo(a)pyrene	1100	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	240	U
53-70-3-----	Dibenz(a,h)anthracene	830	U
191-24-2-----	Benzo(g,h,i)perylene	830	U

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: RRR76

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20 dec. \_\_\_\_\_

Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) Y pH: 8.2

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.24	1300	J
2.00015-96-8	ETHANOL, 2-CHLORO-, PHOSPHAT	25.21	600	J
3.	UNKNOWN	27.24	480	J
4.	UNKNOWN	27.57	390	J
5.	UNKNOWN HYDROCARBON	28.30	430	J
6.	UNKNOWN	28.41	460	J
7.	UNKNOWN HYDROCARBON	29.53	540	J
8.	UNKNOWN	30.29	450	J
9.	UNKNOWN PYRENE, METHYL	31.85	770	J
10.	UNKNOWN HYDROCARBON	32.95	1600	J
11.	UNKNOWN HYDROCARBON	35.01	3000	J
12.	UNKNOWN HYDROCARBON	35.98	3700	J
13.	UNKNOWN HYDROCARBON	36.92	18000	J
14.	UNKNOWN HYDROCARBON	37.82	21000	J
15.	UNKNOWN	38.42	3300	J
16.	UNKNOWN HYDROCARBON	38.71	14000	J
17.	UNKNOWN HYDROCARBON	39.71	9800	J
18.	UNKNOWN	40.01	4000	J
19.	UNKNOWN HYDROCARBON	40.83	3800	J
20.	UNKNOWN	40.99	2700	J
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: REZ77

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. 13 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

Cleanup: (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

108-95-2	Phenol	750	U
111-44-4	bis(2-Chloroethyl)ether	750	U
95-57-8	2-Chlorophenol	750	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
100-51-6	Benzyl alcohol	750	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	750	U
108-60-1	bis(2-Chloroisopropyl)ether	750	U
106-44-5	4-Methylphenol	750	U
621-64-7	N-Nitroso-di-n-propylamine	750	U
67-72-1	Hexachloroethane	750	U
98-95-3	Nitrobenzene	750	U
78-59-1	Isophorone	620	J
88-75-5	2-Nitrophenol	750	U
105-67-9	2,4-Dimethylphenol	750	U
65-85-0	Benzoic acid	3700	U
111-91-1	bis(2-Chloroethoxy)methane	750	U
120-83-2	2,4-Dichlorophenol	750	U
120-82-1	1,2,4-Trichlorobenzene	750	U
91-20-3	Naphthalene	750	U
106-47-8	4-Chloroaniline	750	U
87-68-3	Hexachlorobutadiene	750	U
59-50-7	4-Chloro-3-methylphenol	750	U
91-57-6	2-Methylnaphthalene	750	U
77-47-4	Hexachlorocyclopentadiene	750	U
88-06-2	2,4,6-Trichlorophenol	750	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	750	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	750	U
208-96-8	Acenaphthylene	93	J
606-20-2	2,6-Dinitrotoluene	750	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: REZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) Y

pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	3700	U
83-32-9-----	Acenaphthene	750	U
51-28-5-----	2,4-Dinitrophenol	3700	U
100-02-7-----	4-Nitrophenol	3700	U
132-64-9-----	Dibenzofuran	750	U
121-14-2-----	2,4-Dinitrotoluene	750	U
84-66-2-----	Diethylphthalate	550	J
7005-72-3-----	4-Chlorophenyl-phenylether	750	U
86-73-7-----	Fluorene	750	U
100-01-6-----	4-Nitroaniline	3700	U
534-52-1-----	4,6-Dinitro-2-methylphenol	3700	U
86-30-6-----	N-Nitrosodiphenylamine (1)	750	U
101-55-3-----	4-Bromophenyl-phenylether	750	U
118-74-1-----	Hexachlorobenzene	750	U
87-86-5-----	Pentachlorophenol	3700	U
85-01-8-----	Phenanthrene	980	
120-12-7-----	Anthracene	220	J
84-74-2-----	Di-n-butylphthalate	750	U
206-44-0-----	Fluoranthene	2200	
129-00-0-----	Pyrene	1900	
85-68-7-----	Butylbenzylphthalate	250	J
91-94-1-----	3,3'-Dichlorobenzidine	1500	U
56-55-3-----	Benzo(a)anthracene	1000	
218-01-9-----	Chrysene	1000	
117-81-7-----	bis(2-Ethylhexyl)phthalate	680	J
117-84-0-----	Di-n-octylphthalate	750	U
205-99-2-----	Benzo(b)fluoranthene	1300	
207-08-9-----	Benzo(k)fluoranthene	940	
50-32-8-----	Benzo(a)pyrene	1200	
193-39-5-----	Indeno(1,2,3-cd)pyrene	370	J
53-70-3-----	Dibenz(a,h)anthracene	750	U
191-24-2-----	Benzo(g,h,i)perylene	300	J

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: REZ77

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec. \_\_\_\_\_

Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

GPC Cleanup : (Y/N) Y pH: 8.1

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	17.25	1500	JN
2.	UNKNOWN HYDROCARBON	17.76	2700	J
3.	UNKNOWN HYDROCARBON	19.14	2500	J
4.	UNKNOWN HYDROCARBON	19.55	4600	J
5.	UNKNOWN HYDROCARBON	20.61	3700	J
6.	UNKNOWN HYDROCARBON	21.22	5700	J
7.	UNKNOWN HYDROCARBON	22.09	1200	J
8.	UNKNOWN HYDROCARBON	24.29	4200	J
9.	UNKNOWN HYDROCARBON	24.39	3700	J
10.	UNKNOWN HYDROCARBON	27.06	2600	J
11.	UNKNOWN HYDROCARBON	28.35	1900	J
12.	UNKNOWN HYDROCARBON	29.58	1400	J
13.	UNKNOWN HYDROCARBON	30.76	840	J
14.	UNKNOWN	33.20	960	JB
15.	UNKNOWN	36.01	2300	JB
16.	UNKNOWN C20H12. PAH	37.29	3600	J
17.	UNKNOWN	38.48	3200	JB
18.	UNKNOWN	39.81	2600	JB
19.	UNKNOWN	41.34	1900	JB
20.	UNKNOWN	43.21	1100	JB
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ78

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: RRZ78

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	23000	U R
111-44-4	bis(2-Chloroethyl)ether	23000	U
95-57-8	2-Chlorophenol	23000	U
541-73-1	1,3-Dichlorobenzene	23000	U
106-46-7	1,4-Dichlorobenzene	23000	U
100-51-6	Benzyl alcohol	23000	U
95-50-1	1,2-Dichlorobenzene	23000	U
95-48-7	2-Methylphenol	23000	U
108-60-1	bis(2-Chloroisopropyl)ether	23000	U
106-44-5	4-Methylphenol	23000	U
621-64-7	N-Nitroso-di-n-propylamine	23000	U
67-72-1	Hexachloroethane	23000	U
98-95-3	Nitrobenzene	23000	U
78-59-1	Isophorone	23000	U
88-75-5	2-Nitrophenol	23000	U
105-67-9	2,4-Dimethylphenol	23000	U
65-85-0	Benzoic acid	110000	U
111-91-1	bis(2-Chloroethoxy)methane	23000	U
120-83-2	2,4-Dichlorophenol	23000	U
120-82-1	1,2,4-Trichlorobenzene	23000	U
91-20-3	Naphthalene	23000	U
106-47-8	4-Chloroaniline	23000	U
87-68-3	Hexachlorobutadiene	23000	U
59-50-7	4-Chloro-3-methylphenol	23000	U
91-57-6	2-Methylnaphthalene	23000	U
77-47-4	Hexachlorocyclopentadiene	23000	U
88-06-2	2,4,6-Trichlorophenol	23000	U
95-95-4	2,4,5-Trichlorophenol	110000	U
91-58-7	2-Chloronaphthalene	23000	U
88-74-4	2-Nitroaniline	110000	U
131-11-3	Dimethylphthalate	23000	U
208-96-8	Acenaphthylene	23000	U
606-20-2	2,6-Dinitrotoluene	23000	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: RR278

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

99-09-2	3-Nitroaniline	110000
83-32-9	Acenaphthene	23000
51-28-5	2,4-Dinitrophenol	110000
100-02-7	4-Nitrophenol	110000
132-64-9	Dibenzofuran	23000
121-14-2	2,4-Dinitrotoluene	23000
84-66-2	Diethylphthalate	5600
7005-72-3	4-Chlorophenyl-phenylether	23000
86-73-7	Fluorene	23000
100-01-6	4-Nitroaniline	110000
534-52-1	4,6-Dinitro-2-methylphenol	110000
86-30-6	N-Nitrosodiphenylamine (1)	23000
101-55-3	4-Bromophenyl-phenylether	23000
118-74-1	Hexachlorobenzene	23000
87-86-5	Pentachlorophenol	110000
85-01-8	Phenanthrene	23000
120-12-7	Anthracene	23000
84-74-2	Di-n-butylphthalate	23000
206-44-0	Fluoranthene	23000
129-00-0	Pyrene	23000
85-68-7	Butylbenzylphthalate	23000
91-94-1	3,3'-Dichlorobenzidine	46000
56-55-3	Benzo(a)anthracene	23000
218-01-9	Chrysene	23000
117-81-7	bis(2-Ethylhexyl)phthalate	23000
117-84-0	Di-n-octylphthalate	23000
205-99-2	Benzo(b)fluoranthene	23000
207-08-9	Benzo(k)fluoranthene	23000
50-32-8	Benzo(a)pyrene	23000
193-39-5	Indeno(1,2,3-cd)pyrene	23000
53-70-3	Dibenz(a,h)anthracene	23000
191-24-2	Benzo(g,h,i)perylene	23000

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: RRZ78

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 13 dec. \_\_\_\_\_

Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	33.11	10000	JB
2.	UNKNOWN	34.56	19000	JB
3.	UNKNOWN	35.92	31000	JB
4.	UNKNOWN	37.18	47000	JB
5.	UNKNOWN	38.38	43000	JB
6.	UNKNOWN	39.71	26000	JB
7.	UNKNOWN	41.25	12000	JB
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-09-0027

BEZ79

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ79

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 24 dec.

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N

pH: 8.3

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	26000	U
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	26000	U
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	26000	U
606-20-2	2,6-Dinitrotoluene	26000	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ79

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 24 dec.

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.3

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	130000	U
83-32-9-----	Acenaphthene	26000	U
51-28-5-----	2,4-Dinitrophenol	130000	U
100-02-7-----	4-Nitrophenol	130000	U
132-64-9-----	Dibenzofuran	26000	U
121-14-2-----	2,4-Dinitrotoluene	26000	U
84-66-2-----	Diethylphthalate	26000	U
7005-72-3-----	4-Chlorophenyl-phenylether	26000	U
86-73-7-----	Fluorene	26000	U
100-01-6-----	4-Nitroaniline	130000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	130000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	26000	U
101-55-3-----	4-Bromophenyl-phenylether	26000	U
118-74-1-----	Hexachlorobenzene	26000	U
87-86-5-----	Pentachlorophenol	130000	U
85-01-8-----	Phenanthrene	7900	J
120-12-7-----	Anthracene	7900	J
84-74-2-----	Di-n-butylphthalate	26000	U
206-44-0-----	Fluoranthene	12000	J
129-00-0-----	Pyrene	8000	J
85-68-7-----	Butylbenzylphthalate	4000	J
91-94-1-----	3,3'-Dichlorobenzidine	52000	U
56-55-3-----	Benzo(a)anthracene	3700	J
218-01-9-----	Chrysene	3700	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	51000	J
117-84-0-----	Di-n-octylphthalate	9600	J
205-99-2-----	Benzo(b)fluoranthene	5300	J
207-08-9-----	Benzo(k)fluoranthene	5300	J
50-32-8-----	Benzo(a)pyrene	26000	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	26000	U
53-70-3-----	Dibenz(a,h)anthracene	26000	U
191-24-2-----	Benzo(g,h,i)perylene	26000	U

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ79

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 24 dec. \_\_\_\_\_

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.3

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

Number TICs found: 7

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.03	17000	J
2.00115-96-8	ETHANOL, 2-CHLORO-, PHOSPHAT	25.38	120000	J
3.	UNKNOWN	36.04	18000	JB
4.	UNKNOWN	38.51	37000	JB
5.	UNKNOWN	39.85	28000	JB
6.	UNKNOWN	41.44	20000	JB
7.	UNKNOWN	43.35	11000	JB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ80

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ80

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 30 dec. \_\_\_\_\_

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	28000	U
111-44-4-----	bis(2-Chloroethyl)ether	28000	U
95-57-8-----	2-Chlorophenol	28000	U
541-73-1-----	1,3-Dichlorobenzene	28000	U
106-46-7-----	1,4-Dichlorobenzene	28000	U
100-51-6-----	Benzyl alcohol	28000	U
95-50-1-----	1,2-Dichlorobenzene	28000	U
95-48-7-----	2-Methylphenol	28000	U
108-60-1-----	bis(2-Chloroisopropyl)ether	28000	U
106-44-5-----	4-Methylphenol	28000	U
621-64-7-----	N-Nitroso-di-n-propylamine	28000	U
67-72-1-----	Hexachloroethane	28000	U
98-95-3-----	Nitrobenzene	28000	U
78-59-1-----	Isophorone	28000	U
88-75-5-----	2-Nitrophenol	28000	U
105-67-9-----	2,4-Dimethylphenol	28000	U
65-85-0-----	Benzoic acid	140000	U
111-91-1-----	bis(2-Chloroethoxy)methane	28000	U
120-83-2-----	2,4-Dichlorophenol	28000	U
120-82-1-----	1,2,4-Trichlorobenzene	28000	U
91-20-3-----	Naphthalene	28000	U
106-47-8-----	4-Chloroaniline	28000	U
87-68-3-----	Hexachlorobutadiene	28000	U
59-50-7-----	4-Chloro-3-methylphenol	28000	U
91-57-6-----	2-Methylnaphthalene	28000	U
77-47-4-----	Hexachlorocyclopentadiene	28000	U
88-06-2-----	2,4,6-Trichlorophenol	28000	U
95-95-4-----	2,4,5-Trichlorophenol	140000	U
91-58-7-----	2-Chloronaphthalene	28000	U
88-74-4-----	2-Nitroaniline	140000	U
131-11-3-----	Dimethylphthalate	28000	U
208-96-8-----	Acenaphthylene	28000	U
606-20-2-----	2,6-Dinitrotoluene	28000	U

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ80

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ80

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 30 dec.

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N

pH: 8.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

99-09-2-----	3-Nitroaniline	140000	U J
83-32-9-----	Acenaphthene	28000	U
51-28-5-----	2,4-Dinitrophenol	140000	U
100-02-7-----	4-Nitrophenol	140000	U
132-64-9-----	Dibenzofuran	28000	U
121-14-2-----	2,4-Dinitrotoluene	28000	U
84-66-2-----	Diethylphthalate	28000	U
7005-72-3-----	4-Chlorophenyl-phenylether	28000	U
86-73-7-----	Fluorene	28000	U
100-01-6-----	4-Nitroaniline	140000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	140000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	28000	U
101-55-3-----	4-Bromophenyl-phenylether	28000	U
118-74-1-----	Hexachlorobenzene	28000	U
87-86-5-----	Pentachlorophenol	140000	U
85-01-8-----	Phenanthrene	65000	U
120-12-7-----	Anthracene	4300	U
84-74-2-----	Di-n-butylphthalate	28000	U
206-44-0-----	Fluoranthene	99000	U
129-00-0-----	Pyrene	55000	U
85-68-7-----	Butylbenzylphthalate	28000	U
91-94-1-----	3,3'-Dichlorobenzidine	57000	U
56-55-3-----	Benzo(a)anthracene	20000	U
218-01-9-----	Chrysene	30000	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	7000	U
117-84-0-----	Di-n-octylphthalate	28000	U
205-99-2-----	Benzo(b)fluoranthene	38000	U
207-08-9-----	Benzo(k)fluoranthene	25000	U
50-32-8-----	Benzo(a)pyrene	27000	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10000	U
53-70-3-----	Dibenz(a,h)anthracene	28000	U
191-24-2-----	Benzo(g,h,i)perylene	9100	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ80

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ80

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 30 dec. \_\_\_\_\_

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.6

Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	36.03	17000	JB
2.	UNKNOWN C20H12, PAH	37.30	74000	J
3.	UNKNOWN C20H12, PAH	37.99	23000	J
4.	UNKNOWN	38.51	39000	JB
5.	UNKNOWN	39.86	29000	JB
6.	UNKNOWN	41.43	21000	JB
7.	UNKNOWN	43.34	11000	JB
8.				
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ81

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 23 dec.

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

GC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic acid	120000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	26000	U
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	26000	U
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	120000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	120000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	26000	U
606-20-2	2,6-Dinitrotoluene	26000	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ81

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 23 dec.

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

C Cleanup: (Y/N) N

pH: 7.5

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

99-09-2-----	3-Nitroaniline	120000	U
83-32-9-----	Acenaphthene	26000	U
51-28-5-----	2,4-Dinitrophenol	120000	U
100-02-7-----	4-Nitrophenol	120000	U
132-64-9-----	Dibenzofuran	26000	U
121-14-2-----	2,4-Dinitrotoluene	26000	U
84-66-2-----	Diethylphthalate	26000	U
7005-72-3-----	4-Chlorophenyl-phenylether	26000	U
86-73-7-----	Fluorene	26000	U
100-01-6-----	4-Nitroaniline	120000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	120000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	26000	U
101-55-3-----	4-Bromophenyl-phenylether	26000	U
118-74-1-----	Hexachlorobenzene	26000	U
87-86-5-----	Pentachlorophenol	120000	U
85-01-8-----	Phenanthrene	8300	J
120-12-7-----	Anthracene	26000	U
84-74-2-----	Di-n-butylphthalate	26000	U
206-44-0-----	Fluoranthene	8000	J
129-00-0-----	Pyrene	5700	J
85-68-7-----	Butylbenzylphthalate	26000	U
91-94-1-----	3,3'-Dichlorobenzidine	51000	U
56-55-3-----	Benzo(a)anthracene	3400	J
218-01-9-----	Chrysene	26000	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	4600	J
117-84-0-----	Di-n-octylphthalate	26000	U
205-99-2-----	Benzo(b)fluoranthene	26000	U
207-08-9-----	Benzo(k)fluoranthene	26000	U
50-32-8-----	Benzo(a)pyrene	26000	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	26000	U
53-70-3-----	Dibenz(a,h)anthracene	26000	U
191-24-2-----	Benzo(g,h,i)perylene	26000	U

500

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: BEZ81

Level: (low/med) MED

Date Received: 06/27/90

% Moisture: not dec. 23 dec. \_\_\_\_\_

Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/25/90

PC Cleanup : (Y/N) N

pH: 7.5

Dilution Factor: 1.000

Number TICs found: 6

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	36.03	17000	JB
2.	UNKNOWN	37.30	36000	JB
3.	UNKNOWN	38.52	35000	JB
4.	UNKNOWN	39.86	27000	JB
5.	UNKNOWN	41.43	18000	JB
6.	UNKNOWN	43.35	11000	JB
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ83

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ83

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N

pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

520

(1) - Cannot be separated from Diphenylamine

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ83

Name: S-CUBED

Contract: 68-D9-0027

b Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

rix: (soil/water) WATER

Lab Sample ID: BEZ83

ample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ83

el: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. dec.

Date Extracted: 07/01/90

raction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

Cleanup : (Y/N) N

pH: 0.0

Dilution Factor: 1.000

umber TICs found: 12

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

GAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.33	16	JB
2.	UNKNOWN	24.66	22	JB
3.	UNKNOWN	25.24	14	JB
4.	UNKNOWN	25.92	7	J
5.	UNKNOWN	26.69	12	JB
6.	UNKNOWN C12H22	27.34	20	JB
7.	UNKNOWN	34.68	8	JB
8.	UNKNOWN	36.04	12	JB
9.	UNKNOWN	37.31	18	JB
10.	UNKNOWN	38.52	20	JB
11.	UNKNOWN	39.87	16	JB
12.	UNKNOWN	41.44	11	JB
13.				
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ84

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

540

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ84

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

GC Cleanup: (Y/N) N

pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

541

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ84

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/24/90

BPC Cleanup : (Y/N) N pH: 0.0

Dilution Factor: 1.000

Number TICs found: 12

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.35	12	JB
2.	UNKNOWN	24.69	15	JB
3.	UNKNOWN	25.26	10	JB
4.	UNKNOWN	36.72	8	JB
5.	UNKNOWN C18H22	27.38	15	JB
6.	UNKNOWN	34.72	7	JB
7.	UNKNOWN	36.07	14	JB
8.	UNKNOWN	27.34	20	JB
9.	UNKNOWN	38.55	20	JB
10.	UNKNOWN	39.90	17	JB
11.	UNKNOWN	41.47	11	JB
12.	UNKNOWN	43.39	6	JB
13.				
14.				
15.				
16.				
17.				
18.				
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30.				

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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ85

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ85

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N

pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ85

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

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1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ85

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT.

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Number TICs found: 11

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.34	19	JB
2.	UNKNOWN	24.65	19	JB
3.	UNKNOWN	25.23	12	JB
4.	UNKNOWN	26.69	8	JB
5.	UNKNOWN	27.34	13	JB
6.	UNKNOWN	34.68	7	JB
7.	UNKNOWN	36.04	13	JB
8.	UNKNOWN	37.31	18	JB
9.	UNKNOWN	38.52	19	JB
10.	UNKNOWN	39.87	15	JB
11.	UNKNOWN	41.44	11	JB
12.				
13.				
14.				
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1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ86

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ86

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
100-51-6	Benzyl alcohol	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	bis(2-Chloroisopropyl)ether	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-di-n-propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
65-85-0	Benzoic acid	50	U	
111-91-1	bis(2-Chloroethoxy)methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

1C  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ86

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec.

dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc)

CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N

pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine



1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ86

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: BEZ86

Level: (low/med) LOW

Date Received: 06/27/90

Moisture: not dec. dec.

Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.69	21	JB
2.	UNKNOWN	25.26	14	JB
3.	UNKNOWN	26.71	7	JB
4.	UNKNOWN C18H22	27.36	10	JB
5.	UNKNOWN	34.71	8	JB
6.	UNKNOWN	36.06	14	JB
7.	UNKNOWN	37.32	20	JB
8.	UNKNOWN	38.54	23	JB
9.	UNKNOWN	39.89	18	JB
10.	UNKNOWN	41.47	12	JB
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
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22.				
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1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724021

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	0.05 U
319-85-7	beta-BHC	0.05 U
319-86-8	delta-BHC	0.05 U
58-89-9	gamma-BHC (Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4'-DDD	0.10 U
1031-07-8	Endosulfan sulfate	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	Methoxychlor	0.50 U
53494-70-5	Endrin ketone	0.10 U
5103-71-9	alpha-Chlordane	0.50 U
5103-74-2	gamma-Chlordane	0.50 U
8001-35-2	Toxaphene	1.00 U
12674-11-2	Aroclor-1016	0.50 U
11104-28-2	Aroclor-1221	0.50 U
11141-16-5	Aroclor-1232	0.50 U
53469-21-9	Aroclor-1242	0.50 U
12672-29-6	Aroclor-1248	0.50 U
11097-69-1	Aroclor-1254	1.00 U
11096-82-5	Aroclor-1260	1.00 U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724078

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. \_\_\_\_\_ dec. \_\_\_\_\_

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6-----	alpha-BHC	0.08	
319-85-7-----	beta-BHC	1.20	
319-86-8-----	delta-BHC	0.05	U
58-89-9-----	gamma-BHC (Lindane)	0.05	U
76-44-8-----	Heptachlor	0.05	U
309-00-2-----	Aldrin	0.05	U
1024-57-3-----	Heptachlor epoxide	0.05	U
959-98-8-----	Endosulfan I	0.05	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.48	
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.26	
72-54-8-----	4,4'-DDD	0.72	
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
5103-71-9-----	alpha-Chlordane	0.28	J
5103-74-2-----	gamma-Chlordane	0.24	J
8001-35-2-----	Toxaphene	1.00	U
12674-11-2-----	Aroclor-1016	0.50	U
11104-28-2-----	Aroclor-1221	0.50	U
11141-16-5-----	Aroclor-1232	0.50	U
53469-21-9-----	Aroclor-1242	0.50	U
12672-29-6-----	Aroclor-1248	0.50	U
11097-69-1-----	Aroclor-1254	1.00	U
11096-82-5-----	Aroclor-1260	1.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: DLZ68

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724032

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 10.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	0.50	U
319-85-7	beta-BHC	0.50	U
319-86-8	delta-BHC	0.50	U
58-89-9	gamma-BHC (Lindane)	0.50	U
76-44-8	Heptachlor	0.50	U
309-00-2	Aldrin	0.50	U
1024-57-3	Heptachlor epoxide	0.50	U
959-98-8	Endosulfan I	0.50	U
60-57-1	Dieldrin	1.00	U
72-55-9	4,4'-DDE	1.00	U
72-20-8	Endrin	1.00	U
33213-65-9	Endosulfan II	1.00	U
72-54-8	4,4'-DDD	1.00	U
1031-07-8	Endosulfan sulfate	1.00	U
50-29-3	4,4'-DDT	1.00	U
72-43-5	Methoxychlor	5.00	U
53494-70-5	Endrin ketone	1.00	U
5103-71-9	alpha-Chlordane	5.00	U
5103-74-2	gamma-Chlordane	5.00	U
8001-35-2	Toxaphene	10.00	U
12674-11-2	Aroclor-1016	5.00	U
11104-28-2	Aroclor-1221	5.00	U
11141-16-5	Aroclor-1232	5.00	U
53469-21-9	Aroclor-1242	5.00	U
12672-29-6	Aroclor-1248	5.00	U
11097-69-1	Aroclor-1254	10.00	U
11096-82-5	Aroclor-1260	10.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724079

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	0.05 U
319-85-7	beta-BHC	0.46
319-86-8	delta-BHC	0.05 U
58-89-9	gamma-BHC (Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4'-DDE	0.18
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4'-DDD	0.13
1031-07-8	Endosulfan sulfate	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	Methoxychlor	0.50 U
53494-70-5	Endrin ketone	0.10 U
5103-71-9	alpha-Chlordane	0.50 U
5103-74-2	gamma-Chlordane	0.50 U
8001-35-2	Toxaphene	1.00 U
12674-11-2	Aroclor-1016	0.50 U
11104-28-2	Aroclor-1221	0.50 U
11141-16-5	Aroclor-1232	0.50 U
53469-21-9	Aroclor-1242	0.50 U
12672-29-6	Aroclor-1248	0.50 U
11097-69-1	Aroclor-1254	1.00 U
11096-82-5	Aroclor-1260	1.00 U



1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Name: S-CUBED

Contract: 68-D9-0027

Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

ix: (soil/water) SOIL

Lab Sample ID: BEZ70

ple wt/vol: 29.9 (g/mL) G

Lab File ID: F0727020

l: (low/med) LOW

Date Received: 06/27/90

isture: not dec. 46 dec. \_\_\_\_

Date Extracted: 07/06/90

raction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

leanup: (Y/N) N pH: 8.6

Dilution Factor: 1.000

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

319-84-6-----	alpha-BHC	15.00	U
319-85-7-----	beta-BHC	42.00	U
319-86-8-----	delta-BHC	15.00	U
58-89-9-----	gamma-BHC (Lindane)	15.00	U
76-44-8-----	Heptachlor	15.00	U
309-00-2-----	Aldrin	15.00	U
1024-57-3-----	Heptachlor epoxide	15.00	U
959-98-8-----	Endosulfan I	15.00	U
60-57-1-----	Dieldrin	30.00	U
72-55-9-----	4,4'-DDE	67.00	U
72-20-8-----	Endrin	30.00	U
33213-65-9-----	Endosulfan II	58.00	U
72-54-8-----	4,4'-DDD	36.00	U
1031-07-8-----	Endosulfan sulfate	30.00	U
50-29-3-----	4,4'-DDT	30.00	U
72-43-5-----	Methoxychlor	150.00	U
53494-70-5-----	Endrin ketone	30.00	U
5103-71-9-----	alpha-Chlordane	150.00	U
5103-74-2-----	gamma-Chlordane	150.00	U
8001-35-2-----	Toxaphene	300.00	U
12674-11-2-----	Aroclor-1016	150.00	U
11104-28-2-----	Aroclor-1221	150.00	U
11141-16-5-----	Aroclor-1232	150.00	U
53469-21-9-----	Aroclor-1242	150.00	U
12672-29-6-----	Aroclor-1248	150.00	U
11097-69-1-----	Aroclor-1254	300.00	U
11096-82-5-----	Aroclor-1260	300.00	U

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1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ71

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ71

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: F0724063

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 72 dec. \_\_\_\_\_

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 7.6

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	28.00	U
319-85-7-----	beta-BHC	28.00	U
319-86-8-----	delta-BHC	28.00	U
58-89-9-----	gamma-BHC (Lindane)	28.00	U
76-44-8-----	Heptachlor	28.00	U
309-00-2-----	Aldrin	28.00	U
1024-57-3-----	Heptachlor epoxide	28.00	U
959-98-8-----	Endosulfan I	28.00	U
60-57-1-----	Dieldrin	56.00	U
72-55-9-----	4,4'-DDE	56.00	U
72-20-8-----	Endrin	56.00	U
33213-65-9-----	Endosulfan II	56.00	U
72-54-8-----	4,4'-DDD	1600.00	-
1031-07-8-----	Endosulfan sulfate	56.00	U
50-29-3-----	4,4'-DDT	56.00	U
72-43-5-----	Methoxychlor	280.00	U
53494-70-5-----	Endrin ketone	56.00	U
5103-71-9-----	alpha-Chlordane	280.00	U
5103-74-2-----	gamma-Chlordane	440.00	
8001-35-2-----	Toxaphene	560.00	U
12674-11-2-----	Aroclor-1016	280.00	U
11104-28-2-----	Aroclor-1221	280.00	U
11141-16-5-----	Aroclor-1232	280.00	U
53469-21-9-----	Aroclor-1242	280.00	U
12672-29-6-----	Aroclor-1248	280.00	U
11097-69-1-----	Aroclor-1254	560.00	U
11096-82-5-----	Aroclor-1260	560.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ72

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: F0724064

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 21 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.00	U J
319-85-7	beta-BHC	10.00	U
319-86-8	delta-BHC	10.00	U
58-89-9	gamma-BHC (Lindane)	10.00	U
76-44-8	Heptachlor	10.00	U
309-00-2	Aldrin	10.00	U
1024-57-3	Heptachlor epoxide	10.00	U
959-98-8	Endosulfan I	10.00	U
60-57-1	Dieldrin	20.00	U
72-55-9	4,4'-DDE	20.00	U
72-20-8	Endrin	20.00	U
33213-65-9	Endosulfan II	20.00	U
72-54-8	4,4'-DDD	20.00	U
1031-07-8	Endosulfan sulfate	20.00	U
50-29-3	4,4'-DDT	20.00	U
72-43-5	Methoxychlor	100.00	U
53494-70-5	Endrin ketone	20.00	U
5103-71-9	alpha-Chlordane	100.00	U
5103-74-2	gamma-Chlordane	100.00	U
8001-35-2	Toxaphene	200.00	U
12674-11-2	Aroclor-1016	100.00	U
11104-28-2	Aroclor-1221	100.00	U
11141-16-5	Aroclor-1232	100.00	U
53469-21-9	Aroclor-1242	100.00	U
12672-29-6	Aroclor-1248	100.00	U
11097-69-1	Aroclor-1254	200.00	U
11096-82-5	Aroclor-1260	200.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ73

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: F0724067

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 11 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/26/90

PC Cleanup: (Y/N) N pH: 8.2

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	9.00
319-85-7	beta-BHC	17.00
319-86-8	delta-BHC	9.00
58-89-9	gamma-BHC (Lindane)	9.00
76-44-8	Heptachlor	9.00
309-00-2	Aldrin	9.00
1024-57-3	Heptachlor epoxide	9.00
959-98-8	Endosulfan I	9.00
60-57-1	Dieldrin	100.00
72-55-9	4,4'-DDE	21.00
72-20-8	Endrin	18.00
33213-65-9	Endosulfan II	18.00
72-54-8	4,4'-DDD	18.00
1031-07-8	Endosulfan sulfate	18.00
50-29-3	4,4'-DDT	75.00
72-43-5	Methoxychlor	90.00
53494-70-5	Endrin ketone	18.00
5103-71-9	alpha-Chlordane	90.00
5103-74-2	gamma-Chlordane	90.00
8001-35-2	Toxaphene	180.00
12674-11-2	Aroclor-1016	90.00
11104-28-2	Aroclor-1221	90.00
11141-16-5	Aroclor-1232	90.00
53469-21-9	Aroclor-1242	90.00
12672-29-6	Aroclor-1248	90.00
11097-69-1	Aroclor-1254	180.00
11096-82-5	Aroclor-1260	180.00

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ74

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: F0727021

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec. \_\_\_\_\_

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

319-84-6	alpha-BHC	330.00	
319-85-7	beta-BHC	2300.00	
319-86-8	delta-BHC	99.00	
58-89-9	gamma-BHC (Lindane)	16.00	
76-44-8	Heptachlor	9.10	U
309-00-2	Aldrin	9.10	U
1024-57-3	Heptachlor epoxide	9.10	U
959-98-8	Endosulfan I	9.10	U
60-57-1	Dieldrin	39.00	
72-55-9	4,4'-DDE	180.00	
72-20-8	Endrin	18.00	U
33213-65-9	Endosulfan II	18.00	U
72-54-8	4,4'-DDD	1700.00	C
1031-07-8	Endosulfan sulfate	18.00	U
50-29-3	4,4'-DDT	420.00	
72-43-5	Methoxychlor	91.00	U
53494-70-5	Endrin ketone	18.00	U
5103-71-9	alpha-Chlordane	60.00	J
5103-74-2	gamma-Chlordane	21.00	J
8001-35-2	Toxaphene	180.00	U
12674-11-2	Aroclor-1016	91.00	U
11104-28-2	Aroclor-1221	91.00	U
11141-16-5	Aroclor-1232	91.00	U
53469-21-9	Aroclor-1242	91.00	U
12672-29-6	Aroclor-1248	91.00	U
11097-69-1	Aroclor-1254	180.00	U
11096-82-5	Aroclor-1260	180.00	U



1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ74

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: F0724080

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

SPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
319-84-6	alpha-BHC	170.00		
319-85-7	beta-BHC	7500.00		
319-86-8	delta-BHC	98.00		
58-89-9	gamma-BHC (Lindane)	15.00		J
76-44-8	Heptachlor	91.00		U
309-00-2	Aldrin	91.00		U
1024-57-3	Heptachlor epoxide	91.00		U
959-98-8	Endosulfan I	91.00		U
60-57-1	Dieldrin	39.00		J
72-55-9	4,4'-DDE	170.00		J
72-20-8	Endrin	180.00		U
33213-65-9	Endosulfan II	67.00		J
72-54-8	4,4'-DDD	2300.00		
1031-07-8	Endosulfan sulfate	180.00		U
50-29-3	4,4'-DDT	130.00		J
72-43-5	Methoxychlor	910.00		U
53494-70-5	Endrin ketone	180.00		U
5103-71-9	alpha-Chlordane	910.00		U
5103-74-2	gamma-Chlordane	18.00		J
8001-35-2	Toxaphene	1800.00		U
12674-11-2	Aroclor-1016	910.00		U
11104-28-2	Aroclor-1221	910.00		U
11141-16-5	Aroclor-1232	910.00		U
53469-21-9	Aroclor-1242	910.00		U
12672-29-6	Aroclor-1248	910.00		U
11897-69-1	Aroclor-1254	1800.00		U
11096-82-5	Aroclor-1260	1800.00		U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: F0724071

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 20 dec. \_\_\_\_\_

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

PC Cleanup: (Y/N) N pH: 8.2

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

319-84-6	alpha-BHC	10.00	U
319-85-7	beta-BHC	10.00	U
319-86-8	delta-BHC	10.00	U
58-89-9	gamma-BHC (Lindane)	10.00	U
76-44-8	Heptachlor	10.00	U
309-00-2	Aldrin	10.00	U
1024-57-3	Heptachlor epoxide	10.00	U
959-98-8	Endosulfan I	10.00	U
60-57-1	Dieldrin	20.00	U
72-55-9	4,4'-DDE	190.00	U
72-20-8	Endrin	20.00	U
33213-65-9	Endosulfan II	20.00	U
72-54-8	4,4'-DDD	52.00	U
1031-07-8	Endosulfan sulfate	20.00	U
50-29-3	4,4'-DDT	39.00	U
72-43-5	Methoxychlor	100.00	U
53494-70-5	Endrin ketone	20.00	U
5103-71-9	alpha-Chlordane	360.00	U
5103-74-2	gamma-Chlordane	350.00	U
8001-35-2	Toxaphene	200.00	U
12674-11-2	Aroclor-1016	100.00	U
11104-28-2	Aroclor-1221	100.00	U
11141-16-5	Aroclor-1232	100.00	U
53469-21-9	Aroclor-1242	100.00	U
12672-29-6	Aroclor-1248	100.00	U
11097-69-1	Aroclor-1254	200.00	U
11096-82-5	Aroclor-1260	200.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ77

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: F0724072

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 13 dec. \_\_\_\_\_

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.1

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

319-84-6	alpha-BHC	9.30	UJ
319-85-7	beta-BHC	51.00	J
319-86-8	delta-BHC	9.30	UJ
58-89-9	gamma-BHC (Lindane)	9.30	U
76-44-8	Heptachlor	9.30	U
309-00-2	Aldrin	9.30	U
1024-57-3	Heptachlor epoxide	9.30	U
959-98-8	Endosulfan I	9.30	U
60-57-1	Dieldrin	19.00	U
72-55-9	4,4'-DDE	45.00	J
72-20-8	Endrin	16.00	J
33213-65-9	Endosulfan II	19.00	U
72-54-8	4,4'-DDD	35.00	U
1031-07-8	Endosulfan sulfate	19.00	U
50-29-3	4,4'-DDT	19.00	U
72-43-5	Methoxychlor	93.00	U
53494-70-5	Endrin ketone	19.00	U
5103-71-9	alpha-Chlordane	93.00	U
5103-74-2	gamma-Chlordane	2.10	J
8001-35-2	Toxaphene	190.00	U
12674-11-2	Aroclor-1016	93.00	U
11104-28-2	Aroclor-1221	93.00	U
11141-16-5	Aroclor-1232	93.00	U
53469-21-9	Aroclor-1242	93.00	U
12672-29-6	Aroclor-1248	93.00	U
11097-69-1	Aroclor-1254	190.00	U
11096-82-5	Aroclor-1260	190.00	U

## EPA SAMPLE NO.

Contract: 68-D9-0027

BEZ78

SAS No. :

SDG No. : BEZ67

Lab Sample ID: BEZ78

Lab File ID: F0724073

Date Received: 06/27/90

Date Extracted:07/06/90

Date Analyzed: 07/27/90

pH: 8.1

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

319-84-6-----	alpha-BHC	9.30
319-85-7-----	beta-BHC	66.00
319-86-8-----	delta-BHC	9.30
58-89-9-----	gamma-BHC (Lindane)	9.30
76-44-8-----	Heptachlor	9.30
309-00-2-----	Aldrin	9.30
1024-57-3-----	Heptachlor epoxide	9.30
959-98-8-----	Endosulfan I	9.30
60-57-1-----	Dieldrin	18.00
72-55-9-----	4,4'-DDE	60.00
72-20-8-----	Endrin	24.00
33213-65-9-----	Endosulfan II	18.00
72-54-8-----	4,4'-DDD	67.00
1031-07-8-----	Endosulfan sulfate	18.00
50-29-3-----	4,4'-DDT	26.00
72-43-5-----	Methoxychlor	92.00
53494-70-5-----	Endrin ketone	18.00
5103-71-9-----	alpha-Chlordane	92.00
5103-74-2-----	gamma-Chlordane	92.00
8001-35-2-----	Toxaphene	180.00
12674-11-2-----	Aroclor-1016	92.00
11104-28-2-----	Aroclor-1221	92.00
11141-16-5-----	Aroclor-1232	92.00
53469-21-9-----	Aroclor-1242	92.00
12672-29-6-----	Aroclor-1248	92.00
11097-69-1-----	Aroclor-1254	180.00
11096-82-5-----	Aroclor-1260	180.00

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1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED

Contract: 68-09-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ79

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: F0727022

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 24 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) N pH: 8.3

Dilution Factor: 1.000

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

319-84-6	alpha-BHC	28.00
319-85-7	beta-BHC	730.00
319-86-8	delta-BHC	100.00
58-89-9	gamma-BHC (Lindane)	11.00
76-44-8	Heptachlor	110.00
309-00-2	Aldrin	11.00
1024-57-3	Heptachlor epoxide	11.00
959-98-8	Endosulfan I	11.00
60-57-1	Dieldrin	21.00
72-55-9	4,4'-DDE	1800.00
72-20-8	Endrin	21.00
33213-65-9	Endosulfan II	2900.00
72-54-8	4,4'-DDD	330.00
1031-07-8	Endosulfan sulfate	21.00
50-29-3	4,4'-DDT	21.00
72-43-5	Methoxychlor	110.00
53494-70-5	Endrin ketone	21.00
5103-71-9	alpha-Chlordane	110.00
5103-74-2	gamma-Chlordane	110.00
8001-35-2	Toxaphene	210.00
12674-11-2	Aroclor-1016	110.00
11104-28-2	Aroclor-1221	110.00
11141-16-5	Aroclor-1232	110.00
53469-21-9	Aroclor-1242	110.00
12672-29-6	Aroclor-1248	110.00
11097-69-1	Aroclor-1254	210.00
11096-82-5	Aroclor-1260	37000.00

Handwritten notes and markings in the right margin, including a vertical line of 'U' characters and some illegible scribbles.



1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: DLZ79

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: F0724058

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 24 dec. ....

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 8.3

Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	110.00	U
319-85-7-----	beta-BHC	1400.00	
319-86-8-----	delta-BHC	110.00	U
58-89-9-----	gamma-BHC (Lindane)	32.00	J
76-44-8-----	Heptachlor	120.00	
309-00-2-----	Aldrin	110.00	U
1024-57-3-----	Heptachlor epoxide	110.00	U
959-98-8-----	Endosulfan I	110.00	U
60-57-1-----	Dieldrin	210.00	U
72-55-9-----	4,4'-DDE	1800.00	
72-20-8-----	Endrin	210.00	U
33213-65-9-----	Endosulfan II	6900.00	
72-54-8-----	4,4'-DDD	310.00	
1031-07-8-----	Endosulfan sulfate	210.00	U
50-29-3-----	4,4'-DDT	2700.00	
72-43-5-----	Methoxychlor	1100.00	U
53494-70-5-----	Endrin ketone	210.00	U
5103-71-9-----	alpha-Chlordane	3800.00	
5103-74-2-----	gamma-Chlordane	3500.00	
8001-35-2-----	Toxaphene	2100.00	U
12674-11-2-----	Aroclor-1016	1100.00	U
11104-28-2-----	Aroclor-1221	1100.00	U
11141-16-5-----	Aroclor-1232	1100.00	U
53469-21-9-----	Aroclor-1242	1100.00	U
12672-29-6-----	Aroclor-1248	1100.00	U
11097-69-1-----	Aroclor-1254	2100.00	U
11096-82-5-----	Aroclor-1260	87000.00	

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ80

Sample wt/vol: 29.8 (g/mL) G

Lab File ID: F0724075

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 30 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.6

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	42.00
319-85-7	beta-BHC	330.00
319-86-8	delta-BHC	12.00
58-89-9	gamma-BHC (Lindane)	12.00
76-44-8	Heptachlor	12.00
309-00-2	Aldrin	12.00
1024-57-3	Heptachlor epoxide	12.00
959-98-8	Endosulfan I	12.00
60-57-1	Dieldrin	23.00
72-55-9	4,4'-DDE	560.00
72-20-8	Endrin	23.00
33213-65-9	Endosulfan II	430.00
72-54-8	4,4'-DDD	150.00
1031-07-8	Endosulfan sulfate	23.00
50-29-3	4,4'-DDT	110.00
72-43-5	Methoxychlor	120.00
53494-70-5	Endrin ketone	23.00
5103-71-9	alpha-Chlordane	410.00
5103-74-2	gamma-Chlordane	300.00
8001-35-2	Toxaphene	230.00
12674-11-2	Aroclor-1016	120.00
11104-28-2	Aroclor-1221	120.00
11141-16-5	Aroclor-1232	120.00
53469-21-9	Aroclor-1242	120.00
12672-29-6	Aroclor-1248	120.00
11097-69-1	Aroclor-1254	5200.00
11096-82-5	Aroclor-1260	230.00

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ81

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) SOIL

Lab Sample ID: BEZ81

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: F0724077

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. 23 dec.

Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
319-84-6-----	alpha-BHC	11.00	
319-85-7-----	beta-BHC	88.00	
319-86-8-----	delta-BHC	10.00	
58-89-9-----	gamma-BHC (Lindane)	10.00	
76-44-8-----	Heptachlor	10.00	
309-00-2-----	Aldrin	10.00	
1024-57-3-----	Heptachlor epoxide	10.00	
959-98-8-----	Endosulfan I	10.00	
60-57-1-----	Dieldrin	21.00	
72-55-9-----	4,4'-DDE	21.00	
72-20-8-----	Endrin	39.00	
33213-65-9-----	Endosulfan II	120.00	
72-54-8-----	4,4'-DDD	54.00	
1031-07-8-----	Endosulfan sulfate	50.00	
50-29-3-----	4,4'-DDT	21.00	
72-43-5-----	Methoxychlor	100.00	
53494-70-5-----	Endrin ketone	21.00	
5103-71-9-----	alpha-Chlordane	100.00	
5103-74-2-----	gamma-Chlordane	100.00	
8001-35-2-----	Toxaphene	210.00	
12674-11-2-----	Aroclor-1016	100.00	
11104-28-2-----	Aroclor-1221	100.00	
11141-16-5-----	Aroclor-1232	100.00	
53469-21-9-----	Aroclor-1242	100.00	
12672-29-6-----	Aroclor-1248	100.00	
11097-69-1-----	Aroclor-1254	210.00	
11096-82-5-----	Aroclor-1260	1800.00	

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1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724028

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6-----	alpha-BHC	0.05	U
319-85-7-----	beta-BHC	0.05	U
319-86-8-----	delta-BHC	0.05	U
58-89-9-----	gamma-BHC (Lindane)	0.05	U
76-44-8-----	Heptachlor	0.05	U
309-00-2-----	Aldrin	0.05	U
1024-57-3-----	Heptachlor epoxide	0.05	U
959-98-8-----	Endosulfan I	0.05	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
5103-71-9-----	alpha-Chlordane	0.50	U
5103-74-2-----	gamma-Chlordane	0.50	U
8001-35-2-----	Toxaphene	1.00	U
12674-11-2-----	Aroclor-1016	0.50	U
11104-28-2-----	Aroclor-1221	0.50	U
11141-16-5-----	Aroclor-1232	0.50	U
53469-21-9-----	Aroclor-1242	0.50	U
12672-29-6-----	Aroclor-1248	0.50	U
11097-69-1-----	Aroclor-1254	1.00	U
11096-82-5-----	Aroclor-1260	1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724029

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC
319-85-7	beta-BHC
319-86-8	delta-BHC
58-89-9	gamma-BHC (Lindane)
76-44-8	Heptachlor
309-00-2	Aldrin
1024-57-3	Heptachlor epoxide
959-98-8	Endosulfan I
60-57-1	Dieldrin
72-55-9	4,4'-DDE
72-20-8	Endrin
33213-65-9	Endosulfan II
72-54-8	4,4'-DDD
1031-07-8	Endosulfan sulfate
50-29-3	4,4'-DDT
72-43-5	Methoxychlor
53494-70-5	Endrin ketone
5103-71-9	alpha-Chlordane
5103-74-2	gamma-Chlordane
8001-35-2	Toxaphene
12674-11-2	Aroclor-1016
11104-28-2	Aroclor-1221
11141-16-5	Aroclor-1232
53469-21-9	Aroclor-1242
12672-29-6	Aroclor-1248
11097-69-1	Aroclor-1254
11096-82-5	Aroclor-1260

0.05	U
0.05	U
0.05	U
0.05	U
0.05	U
0.05	U
0.05	U
0.10	U
0.10	U
0.10	U
0.10	U
0.10	U
0.10	U
0.10	U
0.10	U
0.50	U
0.10	U
0.50	U
0.50	U
1.00	U
0.50	U
0.50	U
0.50	U
0.50	U
0.50	U
1.00	U
1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: S-CUBED

Contract: 68-D9-0027

BEZ85

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724030

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.00	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.00	U
11096-82-5	Aroclor-1260	1.00	U

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED

Contract: 68-D9-0027

Lab Code: S3

Case No.: 14407

SAS No.:

SDG No.: BEZ67

Matrix: (soil/water) WATER

Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: F0724031

Level: (low/med) LOW

Date Received: 06/27/90

% Moisture: not dec. dec.

Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0

Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

319-84-6-----	alpha-BHC	0.05	U
319-85-7-----	beta-BHC	0.05	U
319-86-8-----	delta-BHC	0.05	U
58-89-9-----	gamma-BHC (Lindane)	0.05	U
76-44-8-----	Heptachlor	0.05	U
309-00-2-----	Aldrin	0.05	U
1024-57-3-----	Heptachlor epoxide	0.05	U
959-98-8-----	Endosulfan I	0.05	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
5103-71-9-----	alpha-Chlordane	0.50	U
5103-74-2-----	gamma-Chlordane	0.50	U
8001-35-2-----	Toxaphene	1.00	U
12674-11-2-----	Aroclor-1016	0.50	U
11104-28-2-----	Aroclor-1221	0.50	U
11141-16-5-----	Aroclor-1232	0.50	U
53469-21-9-----	Aroclor-1242	0.50	U
12672-29-6-----	Aroclor-1248	0.50	U
11097-69-1-----	Aroclor-1254	1.00	U
11096-82-5-----	Aroclor-1260	1.00	U

Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

Case# 141407 Site D & I Trucking Matrix: Soil 11  
SDG# MBCY-64 Lab CHEMTECH Water 87  
Contractor WESTON-ESAT Reviewer Smita Other —

A.2.1 The case description and exceptions, if any, are noted below with reason(s) for rejection or qualification as estimated value(s) J.

### I) Field Blank Contamination

The Cr level in Rinstate Blank MBDD-97 was greater than CRDL (When  $IDL < CRDL$ ). Therefore following samples were rejected for Cr because these results were detected above the instrument detection limit and less than five times the field blank. "Rejected" Cr → MBDD-81 & MBDD-82.

### II) Matrix Spike recovery

a) Soil matrix spiked sample recovery for Se was less than 10% (0.0%). Therefore all soil sample results for Se have been rejected due to very low recovery. Under ideal condition of analysis these results could have been reported much higher.

"Rejected" Se → MBDD-84; 85; 86; 87; 88;  
MBDD-90; 91; 92; 93; 94 & 95.

Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

## A.2.1 (continuation)

b) Soil matrix Spiked Sample recoveries for Sb and Cu were between 125-200%. Therefore all positive Soil Sample results for Sb and Cu were considered estimated and flagged "I".

"I" Sb → MBDD-85; 92; 93; 94 & 95.

"I" Cu → MBDD-84; 85; 86; 87; 88; 90; 91; 92; 93; 94; 95.

c) Water matrix Spiked Sample recoveries for Sb and Se were between 20-75% and for Pb(F) was greater than 125%. Therefore all Water Samples for Sb & Se and positive sample results for Pb(F) were considered estimated and flagged "I".

"I" Sb & Se → MBCL-64; MBDD-81; 82; 83; 97; 98 & 99.

"I" Pb(F) → MBCL-64; MBDD-82; 83; 97 & 99.

III) ICP Serial Dilution 2- Analysis yielded % concentration differences >10% between undiluted and diluted (5x) ICP Water Digestates for Na. (concentration

Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

#### 2.1 (continuation)

differences of this magnitude may indicate a chemical or physical interference in the ICP measurement of this analyte. For this reason NA for water matrix ( $>110 \times \text{IDL's}$ ) in the following samples have been estimated as "I".

"I"  $\text{As} \rightarrow \text{MBDD-81; 82 \& 83.}$

#### IV) CRDL Standards

Analysis of the CRDL standards yielded % recoveries less than 80% for Mn; Ni; Ag and As and greater than 120% for Cr. Therefore the following samples which these analytes in the concentration range of  $0-4 \times \text{CRDL}$  for Mn, Ni and Ag;  $0-2 \times \text{CRDL}$  for As and  $\text{IDL}-4 \times \text{CRDL}$  for Cr were considered estimated and flagged "I".

"I" As  $\rightarrow \text{MBLY-64; MBDD-81; 97; 98 \& 99.}$

"I" Cr  $\rightarrow \text{MBDD-97 \& 98. (82 was previously qualified)}$

"I" Mn  $\rightarrow \text{MBLY-64; MBDD-97; 98 and 99.}$

"I" Ni  $\rightarrow \text{MBLY-64; MBDD-81; 82; 83; 84; 86; 87; MBDD-90; 91; 94; 97; 98 \& 99.}$

"I" Ag  $\rightarrow \text{MBLY-64; MBDD-81; 82; 83; 84; 85; 86; MBDD-87; 88; 90; 91; 92; 93; 94; MBDD-95; 97; 98 and 99.}$



Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

## A.2.1 (continuation)

V) Field Duplicate Analysis:-

The Field duplicate Pairs (MBDD-82 & 83 for water matrix and (MBDD-91 & 92) for soil matrix produced absolute concentration differences  $> CRDL$  for AL, AS, Cd, Cu, Cr, Hg, V and  $> 2 \times CRDL$  for Be. Also RPDs were greater than 50% for Fe & Zn and greater than 100% for Pb. This lack of laboratory analytical precision between these two samples caused their analyte values to be estimated "J".

"J" AL, AS, Cd, Cu } MBDD-82 & 83.  
Hg, V, Fe & Zn }

"J" Cr  $\rightarrow$  MBDD-83. (MBDD-82 was previously rejected due to other QC criteria.)

"J" AS & Be  $\rightarrow$  MBDD-91 & 92.

VI) Percent Solids of Sediments:-

The soil content in sediment sample MBDD-85 was less than 50%. For this reason the following analyte values have been estimated as "J". (only those values which were previously not rejected or qualified due to other QC criteria.)

Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

## A.2.1 (continuation)

"I" AL; BA, BE; Cd; Ca; Cr; CO; Fe;  
Pb; Mg; Mn; Hg; Ni; K; Na;  
TL; V and Zn. } → MBDD-85.

## VII) Calibration Standard

A 50.2  $\mu$ g ASLK STD. was injected and read 57.8  $\mu$ g ASLK, 15.1 percent difference from the nominal value. Therefore all AS- values (except MBDD-91 & 92 because AS-MBDD-91 & 92 were previously qualified) greater than CRDL were qualified as estimated "I".

"I" AS → MBDD-84; 85; 86; 87; 88; 90;  
MBDD-93; 94 and 95.

(Note: Pb(F) 50  $\mu$ g PbLK STD was not within  $\pm 10\%$  true value) but affected Pb(F) values were previously estimated and therefore were not further qualified here.)

Title: Evaluation of Metals Data for the  
Contract Laboratory Program  
Appendix A.2: Data Assessment Narrative

Date: Feb. 1990  
Number: HW-2  
Revision: 10

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### A.2.2 Contract-Problems/Non-Compliance

- 1) K; As and Pb were diluted beyond the contract requirements but Lab failed to report dilution factor's on Form I's.
- 2) BE → All sample results were less than IDL (except MBDD-92 & 87, but Lab failed to flag with 'U'. BE-MBDD-87 required 'B' flag.

#### A.2.2 Contract-Problems/Non-Compliance

- 3) The Hg results were calculated incorrectly but Validator corrected the Laboratory's miscalculation. The Lab subtracted the Cal-Blank Absorbance from the Absorbances of the other Calibration Standards and this led to the quantitation errors.

MMB Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

Signature

Contractor Reviewer: \_\_\_\_\_

Signature

Date: 08-08-90

Verified by: \_\_\_\_\_

Date: 8/16/90

1  
INORGANIC ANALYSIS DATA SHEET

MBDD81

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-02S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	275.00			P
7440-36-0	Antimony	42.00	U	NH	P
7440-38-2	Arsenic	15.50			F
7440-39-3	Barium	284.00			P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	134000.00			P
7440-47-3	Chromium	<del>44.30</del>			P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	53.70			P
7439-89-6	Iron	3210.00			P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	19200.00			P
7439-96-5	Manganese	574.00			P
7439-97-6	Mercury	0.2221	U		CV
7440-02-0	Nickel	27.30	B		P
7440-09-7	Potassium	55000.00			A
7782-49-2	Selenium	5.00	U	NH	F
7440-22-4	Silver	8.00	U		P
7440-23-5	Sodium	267000.00			P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	28.80	B		P
7440-66-6	Zinc	138.00			P
	Cyanide				NR

Color Before: YELLOW

Clarity Before: OPAQUE

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD82

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-03S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	427.00		HH	P
7440-36-0	Antimony	42.00	U	HH	P
7440-38-2	Arsenic	21.60		HH	F
7440-39-3	Barium	196.00	B		P
7440-41-7	Beryllium	4.00	B	HH	P
7440-43-9	Cadmium	5.00	U	HH	P
7440-70-2	Calcium	87100.00			P
7440-47-3	Chromium	30.00			P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	53.40		HH	P
7439-89-6	Iron	6830.00		HH	P
7439-92-1	Lead	99.00		HH	F
7439-95-4	Magnesium	18300.00			P
7439-96-5	Manganese	519.00			P
7439-97-6	Mercury	.20	U	HH	CV
7440-02-0	Nickel	34.50	B	HH	P
7440-09-7	Potassium	37000.00	B		A
7782-49-2	Selenium	5.00	U	NW	F
7440-22-4	Silver	8.00	U	HH	P
7440-23-5	Sodium	161000.00		E	P
7440-28-0	Thallium	5.00	U	HH	F
7440-62-2	Vanadium	38.70	B	HH	P
7440-66-6	Zinc	244.00		HH	P
	Cyanide				NR

Color Before: YELLOW

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:



1  
INORGANIC ANALYSIS DATA SHEET

MBDD83

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-04S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3210.00	-	h	P
7440-36-0	Antimony	42.90	B	N	P
7440-38-2	Arsenic	36.00	h	h	F
7440-39-3	Barium	350.00	h	h	P
7440-41-7	Beryllium	4.00	h	h	P
7440-43-9	Cadmium	15.60	h	h	P
7440-70-2	Calcium	119000.00	h	h	P
7440-47-3	Chromium	112.00	h	h	P
7440-48-4	Cobalt	13.00	U	h	P
7440-50-8	Copper	302.00	h	h	P
7439-89-6	Iron	25400.00	h	h	P
7439-92-1	Lead	689.00	N	h	F
7439-95-4	Magnesium	20600.00	h	h	P
7439-96-5	Manganese	822.00	h	h	P
7439-97-6	Mercury	0.5729	h	h	CV
7440-02-0	Nickel	82.50	h	h	P
7440-09-7	Potassium	35000.00	B	h	A
7782-49-2	Selenium	50.00	U	N	F
7440-22-4	Silver	8.00	U	h	P
7440-23-5	Sodium	154000.00	U	h	P
7440-28-0	Thallium	5.00	U	h	F
7440-62-2	Vanadium	117.00	h	h	P
7440-66-6	Zinc	1330.00	h	h	P
	Cyanide			h	NR

Color Before: GREY

Clarity Before: OPAQUE

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD84

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-05S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 61.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1380.00			P
7440-36-0	Antimony	13.70	U	N	P
7440-38-2	Arsenic	12.10			F
7440-39-3	Barium	392.00			P
7440-41-7	Beryllium	1.30	U		P
7440-43-9	Cadmium	1.60	U		P
7440-70-2	Calcium	300000.00			P
7440-47-3	Chromium	37.80			P
7440-48-4	Cobalt	4.20	U		P
7440-50-8	Copper	43.70		N	P
7439-89-6	Iron	8750.00			P
7439-92-1	Lead	126.00			P
7439-95-4	Magnesium	4600.00			P
7439-96-5	Manganese	498.00			P
7439-97-6	Mercury	0.51-69			CV
7440-02-0	Nickel	17.90			P
7440-09-7	Potassium	326.00	U		A
7782-49-2	Selenium	16.30	U	NW	F
7440-22-4	Silver	2.60	U		P
7440-23-5	Sodium	1390.00	B		P
7440-28-0	Thallium	1.60	U		F
7440-62-2	Vanadium	21.60			P
7440-66-6	Zinc	210.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD85

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-06S

Level (low/med): LOW

Date Received: 6/27/90

% Solids:

40.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6550.00			P
7440-36-0	Antimony	55.90			P
7440-38-2	Arsenic	61.20			F
7440-39-3	Barium	304.00			P
7440-41-7	Beryllium	2.00			P
7440-43-9	Cadmium	8.80			P
7440-70-2	Calcium	76600.00			P
7440-47-3	Chromium	236.00			P
7440-48-4	Cobalt	16.50	B		P
7440-50-8	Copper	613.00			P
7439-89-6	Iron	46600.00			P
7439-92-1	Lead	863.00			P
7439-95-4	Magnesium	5490.00			P
7439-96-5	Manganese	518.00			P
7439-97-6	Mercury	1.1 1.40			CV
7440-02-0	Nickel	130.00			P
7440-09-7	Potassium	950.00	B		A
7782-49-2	Selenium	25.00			P
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	2740.00			P
7440-28-0	Thallium	2.50	U		F
7440-62-2	Vanadium	98.90			P
7440-66-6	Zinc	2930.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD86

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-07S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5590.00			P
7440-36-0	Antimony	10.10	U	N	P
7440-38-2	Arsenic	12.50			F
7440-39-3	Barium	111.00			P
7440-41-7	Beryllium	.96	U		P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	8270.00			P
7440-47-3	Chromium	15.70			P
7440-48-4	Cobalt	4.50	B		P
7440-50-8	Copper	223.00		N	P
7439-89-6	Iron	15300.00			P
7439-92-1	Lead	378.00			P
7439-95-4	Magnesium	1680.00			P
7439-96-5	Manganese	425.00			P
7439-97-6	Mercury	0.39 <del>46</del>			CV
7440-02-0	Nickel	20.00			P
7440-09-7	Potassium	719.00	B		A
7782-49-2	Selenium	<del>12.00</del>	U	N	F
7440-22-4	Silver	1.90	U		P
7440-23-5	Sodium	538.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	20.80			P
7440-66-6	Zinc	438.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD87

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-08S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 89.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8120.00			P
7440-36-0	Antimony	9.40	U	N	P
7440-38-2	Arsenic	14.80		J	F
7440-39-3	Barium	287.00			P
7440-41-7	Beryllium	1.00	B		P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	3920.00			P
7440-47-3	Chromium	54.30			P
7440-48-4	Cobalt	5.30	B		P
7440-50-8	Copper	62.20		NT	P
7439-89-6	Iron	17800.00			P
7439-92-1	Lead	392.00			P
7439-95-4	Magnesium	2010.00			P
7439-96-5	Manganese	219.00			P
7439-97-6	Mercury	1.87			CV
7440-02-0	Nickel	17.70		J	P
7440-09-7	Potassium	785.00	B		A
7782-49-2	Selenium	11.20	U	N	F
7440-22-4	Silver	1.80	U	f	P
7440-23-5	Sodium	333.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	25.30			P
7440-66-6	Zinc	265.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:



1  
INORGANIC ANALYSIS DATA SHEET

MBDD88

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-09S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 88.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3120.00			P
7440-36-0	Antimony	9.50	U	N	P
7440-38-2	Arsenic	8.90		J	F
7440-39-3	Barium	61.20			P
7440-41-7	Beryllium	.90	U		P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	19700.00			P
7440-47-3	Chromium	168.00			P
7440-48-4	Cobalt	5.30	B		P
7440-50-8	Copper	130.00		N	P
7439-89-6	Iron	8910.00		J	P
7439-92-1	Lead	276.00			P
7439-95-4	Magnesium	5770.00			P
7439-96-5	Manganese	137.00			P
7439-97-6	Mercury	74.90			CV
7440-02-0	Nickel	405.00			P
7440-09-7	Potassium	225.00	U		A
7782-49-2	Selenium	11.30	U	N	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	396.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	10.60	B		P
7440-66-6	Zinc	165.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD90

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-10S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 85.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10100.00	-		P
7440-36-0	Antimony	9.80	U	N	P
7440-38-2	Arsenic	12.90		J	F
7440-39-3	Barium	335.00			P
7440-41-7	Beryllium	.93			P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	21500.00			P
7440-47-3	Chromium	42.20			P
7440-48-4	Cobalt	8.80	B		P
7440-50-8	Copper	104.00		N	P
7439-89-6	Iron	22700.00			P
7439-92-1	Lead	461.00			P
7439-95-4	Magnesium	6650.00			P
7439-96-5	Manganese	314.00			P
7439-97-6	Mercury	2.60			CV
7440-02-0	Nickel	30.90			P
7440-09-7	Potassium	1280.00			A
7782-49-2	Selenium	11.60	U	N	F
7440-22-4	Silver	1.90	U		P
7440-23-5	Sodium	959.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	49.20			P
7440-66-6	Zinc	373.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD91

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-11S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 87.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8440.00	-		P
7440-36-0	Antimony	9.60	U	N	P
7440-38-2	Arsenic	36.40		J	F
7440-39-3	Barium	159.00		F	P
7440-41-7	Beryllium	.92	U		P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	7160.00			P
7440-47-3	Chromium	47.40			P
7440-48-4	Cobalt	8.20	B		P
7440-50-8	Copper	123.00		N	P
7439-89-6	Iron	22300.00		J	P
7439-92-1	Lead	439.00			P
7439-95-4	Magnesium	3390.00			P
7439-96-5	Manganese	322.00			P
7439-97-6	Mercury	<del>1.0</del> 1.10			CV
7440-02-0	Nickel	30.00		J	P
7440-09-7	Potassium	1120.00	B		A
7782-49-2	Selenium	11.50	U	N	F
7440-22-4	Silver	1.80	U		P
7440-23-5	Sodium	570.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	38.10			P
7440-66-6	Zinc	380.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD92

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-12S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 86.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8770.00			P
7440-36-0	Antimony	10.40	B	NJ	P
7440-38-2	Arsenic	111.00		J	F
7440-39-3	Barium	181.00			P
7440-41-7	Beryllium	12.40		J	P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	10200.00			P
7440-47-3	Chromium	81.60			P
7440-48-4	Cobalt	13.20			P
7440-50-8	Copper	166.00		NJ	P
7439-89-6	Iron	22200.00			P
7439-92-1	Lead	453.00			P
7439-95-4	Magnesium	4280.00			P
7439-96-5	Manganese	397.00			P
7439-97-6	Mercury	1.20			CV
7440-02-0	Nickel	46.90			P
7440-09-7	Potassium	1040.00	B		A
7782-49-2	Selenium	11.50	U	N	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	594.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	32.30			P
7440-66-6	Zinc	642.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD93

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-13S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 87.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7970.00			P
7440-36-0	Antimony	25.30		N	P
7440-38-2	Arsenic	13.40		J	F
7440-39-3	Barium	767.00			P
7440-41-7	Beryllium	.92			P
7440-43-9	Cadmium	7.60			P
7440-70-2	Calcium	19900.00			P
7440-47-3	Chromium	167.00			P
7440-48-4	Cobalt	9.50	B		P
7440-50-8	Copper	222.00		N	P
7439-89-6	Iron	21200.00			P
7439-92-1	Lead	1270.00			P
7439-95-4	Magnesium	3810.00			P
7439-96-5	Manganese	285.00			P
7439-97-6	Mercury	2.20			CV
7440-02-0	Nickel	66.30			P
7440-09-7	Potassium	1080.00	B		A
7782-49-2	Selenium	11.50	U	N	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	663.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	37.00			P
7440-66-6	Zinc	934.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:



1  
INORGANIC ANALYSIS DATA SHEET

MBDD94

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-14S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 63.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5850.00			P
7440-36-0	Antimony	27.80		NJ	P
7440-38-2	Arsenic	21.50			F
7440-39-3	Barium	555.00			P
7440-41-7	Beryllium	1.30			P
7440-43-9	Cadmium	2.30			P
7440-70-2	Calcium	23200.00			P
7440-47-3	Chromium	74.60			P
7440-48-4	Cobalt	4.90	B		P
7440-50-8	Copper	125.00		NJ	P
7439-89-6	Iron	15300.00			P
7439-92-1	Lead	619.00			P
7439-95-4	Magnesium	5280.00			P
7439-96-5	Manganese	305.00			P
7439-97-6	Mercury	2.0 2.10			CV
7440-02-0	Nickel	26.20		J	P
7440-09-7	Potassium	820.00	B		A
7782-49-2	Selenium	15.80	U	N	F
7440-22-4	Silver	3.00	B		P
7440-23-5	Sodium	742.00	B		P
7440-28-0	Thallium	1.60	U		F
7440-62-2	Vanadium	28.50			P
7440-66-6	Zinc	561.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD95

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): SOIL

Lab Sample ID: 00386-15S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 76.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11200.00			P
7440-36-0	Antimony	39.90		NJ	P
7440-38-2	Arsenic	27.30		J	F
7440-39-3	Barium	715.00			P
7440-41-7	Beryllium	1.00			P
7440-43-9	Cadmium	4.90			P
7440-70-2	Calcium	12000.00			P
7440-47-3	Chromium	259.00			P
7440-48-4	Cobalt	15.70			P
7440-50-8	Copper	364.00		NJ	P
7439-89-6	Iron	47200.00			P
7439-92-1	Lead	1750.00			P
7439-95-4	Magnesium	3680.00			P
7439-96-5	Manganese	365.00			P
7439-97-6	Mercury	2.8 2.90			CV
7440-02-0	Nickel	118.00			P
7440-09-7	Potassium	1700.00			A
7782-49-2	Selenium	13.10	U	NW	F
7440-22-4	Silver	2.10	U	J	P
7440-23-5	Sodium	638.00	B		P
7440-28-0	Thallium	1.30	U		F
7440-62-2	Vanadium	90.80			P
7440-66-6	Zinc	1050.00			P
	Cyanide				NR

Color Before: GREY

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD97

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-16S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	95.40	B		P
7440-36-0	Antimony	42.00	U	N	P
7440-38-2	Arsenic	5.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	11.20	U	J	P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	136.00			P
7439-92-1	Lead	3.40		N	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	N	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD98

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-17S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	44.00	U		P
7440-36-0	Antimony	42.00	U	NJ	P
7440-38-2	Arsenic	5.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.80	B	J	P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	33.10	B		P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	NJ	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MBDD99

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-18S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	44.00	U		P
7440-36-0	Antimony	42.00	U	NJ	P
7440-38-2	Arsenic	5.00	U	J	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	26.00	U		P
7439-92-1	Lead	3.70	U	NJ	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	NW J	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:



1  
INORGANIC ANALYSIS DATA SHEET

MBCY64

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM

Case No.: 14407

SAS No.:

SDG No.: MBCY64

Matrix (soil/water): WATER

Lab Sample ID: 00386-01S

Level (low/med): LOW

Date Received: 6/27/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	44.00	U		P
7440-36-0	Antimony	42.00	U		P
7440-38-2	Arsenic	5.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	26.00	U		P
7439-92-1	Lead	2.90	B		F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U		P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U		F
7440-22-4	Silver	8.00	U		P
7440-23-5	Sodium	580.00	U		P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	19.97	B		P
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

**REFERENCE NO. 2**

**NUS CORPORATION**

**II**

**0583**

**D & J TRUCKING**  
**02-9005-05**  
**TDD MANAGER-D. PONTE**  
**LOGBOOK #0583**  
**MAY 10, 1990**

New J

On-site reconnaissance  
5/31/90

Parking lot

62975

307169

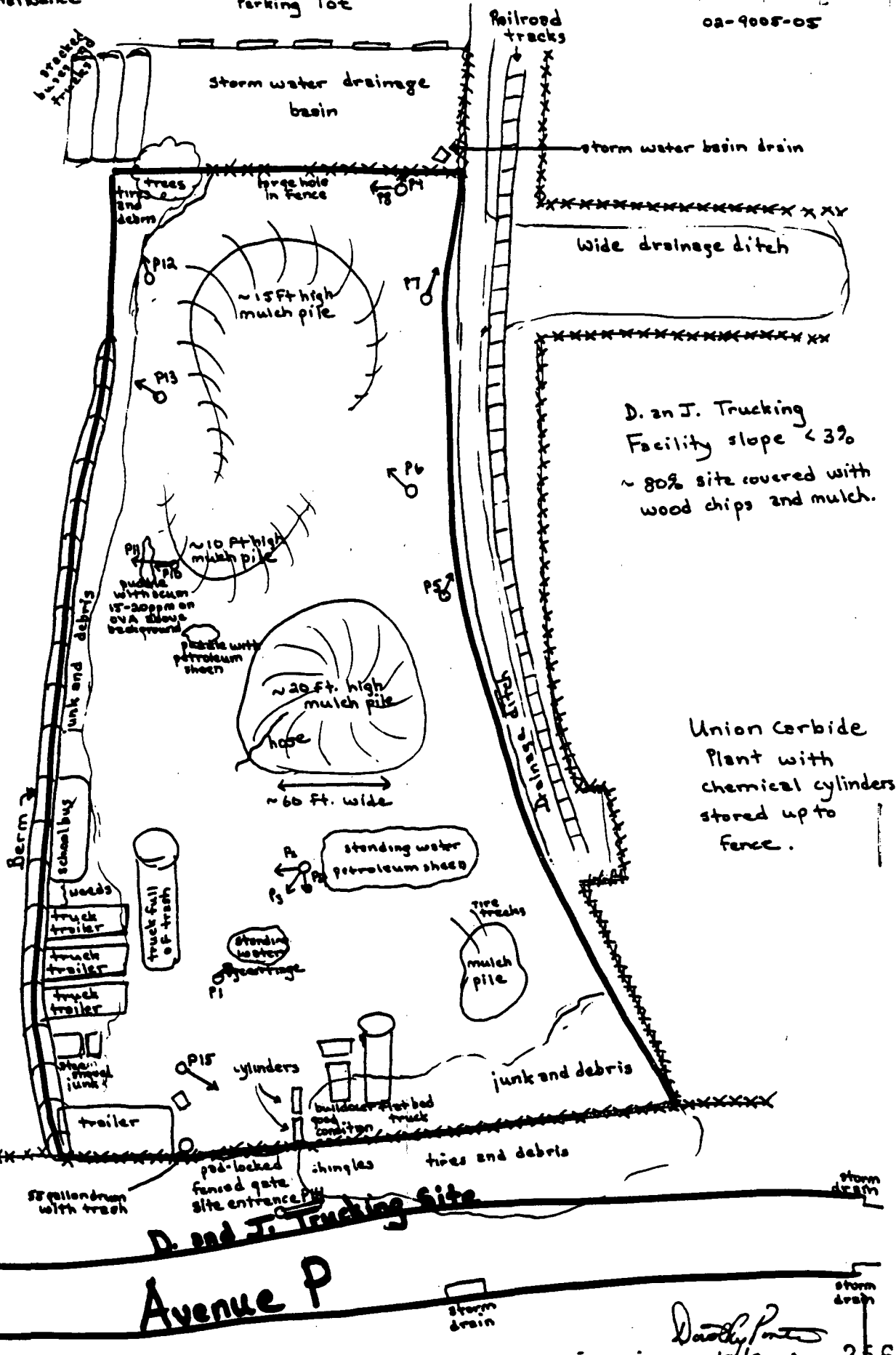
192083

65

02-9005-05

Redrawn from  
original for  
better clarity

Police  
Academy  
Site



7/16/90

D. and J. Trucking Site  
5/31/90



## D. and J. Trucking

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<u>Page No.</u>	<u>Description</u>
3-7	On-site reconnaissance
8-9	Photograph log (on-site reconnaissance)
10-25	On-site inspection
26-28	Photograph log (on-site inspection)

Rel 7/6/90

Dually Jones 7/23/90

02-9005-05

02-9005-05/NIKK

5/31/90

D. and J. Trucking  
 Newark, Essex County, New Jersey  
 310-322 Avenue P Site

ON-SITE RECONNAISSANCENUS Personnel:

Dorothy Ponte sm

Dorothy Ponte

Paul Bauer SSO

Paul Bauer

5/31/90

Matthew Meldrim Support

Matthew J. Meld

5-31-90

The above personnel have read and understood the workplan  
 and QA/QC procedures.

Equipment Numbers:

OVA F # 307137

#  
SCBA

629758

Dorothy

Did not  
use

HN4 J # 469745

#  
SCBA

307169

Matt

Probe J # 469751

#  
SCBA

192083

Paul

10.2 V.

Cameras: # 469776 (Canon)

469756 (Canon)

Rad detector: # 192087

Weather conditions: Sunny, approximately 65°F, light breeze  
 coming from the west.

Dorothy Ponte  
 5/31/90

Rlt 2 J 7/6/90

258

5/31/90

0915 Arrived at 310 Avenue P site waiting to meet up with Michael Chambers of the Newark Housing Authority.

Site entrance is fenced, and ~~link-chained~~<sup>DP 5/31/90</sup> and padlocked. A pack of 6 ~~wild~~<sup>stray DP 5/31/90</sup> dogs are at the site.

View of site through entrance:

Heavy equipment (junk yard) is to the left of gate as well as a mobile type home or office unit.

A dog house is also near this unit.

Heavy equipment is also to the right of the entrance.

Two piles of ~~land~~<sup>free mulch DP 5/31/90</sup> are located on the property, with no growth apparent.

0945 Drove to 309-365 Avenue P Site, to request ~~Cavanaugh~~<sup>DP 5/31/90</sup> to direct Mr. Chambers to 310 Ave. P site, if he mistakenly ~~went to their site~~<sup>goes DP 5/31/90</sup>.

1035 Drove to 309-365 Avenue P Site to access a phone to call Mr. Chronewycz (201) 430-2276. Paul asked him about Michael Chambers and Mr. Chronewycz said he was on his way to 310 Avenue P site.

1045 A bulldozer and ~~trailer~~<sup>DP 5/31/90</sup> truck arrived at site. Atlantic Transit Trans., Newark, N.J. is written on door of truck.

Fellow in bulldozer mentioned Mr. Chambers had been at site 5/30/90. The bulldozer driver mentioned he was at the site to pick up mulch from the piles. The site may therefore ~~be~~<sup>DP 5/31/90</sup> be an active staging area for mulch.

Rel Y N 2/6/21

259

D. and J. Trucking

02-9005-05

5/31/90

10:55 permission was given to open gates to allow us access to site by mulching operation company - name unknown. Fellow in bulldozer opened gates and told us to lock up when we finished. He left site then.

11:00 set up decon area near front entrance to site.

Paul took background readings. For HAU and CUA, the background readings were zero. Rad meter had no readings above background either. Background reading for Rad meter: 0.02-0.04 <sup>meq</sup> <sub>ppm</sub>

11:10 Paul Bauer and Matt Melvin entered property to make a surveillance of air along the perimeter of the site, and in the vicinity of the mulch piles and junk debris located on the property. Both wore level B protective clothing and equipment. Went on air at this time, too.

11:15 Discussed readings taken along the mulch piles, no hits above background in breathing zone. Pond with liquid on ground 15-20 ppm at surface of water.

11:20 Returned from surveillance of site, went off air in decon area.

11:25 PPE downgraded to level C, using msft combination cartridges G.M.C.-H type

11:27 Paul, Matt and Dorothy <sup>pp 5/31/90</sup> enter site to make readings. Affluent on level C at this time, also.

11:32 PB, MM, DP enter site through front gate entrance heading SE.

1-P1, S1, 11:35 Photo looking <sup>southwest pp 5/31/90</sup> at standing water with greenish tinge & petroleum sheen.

1-P2, S2 11:40 Looking <sup>northeast pp 5/31/90</sup> at truck with debris.

1-P3-S3 11:40 Looking North at trailer house near entrance to facility.

1-P4-S4 11:40 Looking NW at fence near <sup>pp 5/31/90</sup> property line. Note debris. <sup>pp 5/31/90</sup>

Relt 11/16/90

D. and J. 5/31/90

11:45 1-P<sub>5</sub>, S<sub>5</sub> <sup>DP 5/31/90</sup> <sup>SE DP 5/31/90</sup> Looking at standing water near SW property line. White sum on surface.

11:46 1-P<sub>6</sub>, S<sub>6</sub> <sup>DP 5/31/90</sup> <sup>east DP 5/31/90</sup> Looking east at wood chipping mulch piles.

11:50 1-P<sub>7</sub>, S<sub>7</sub> <sup>DP 5/31/90</sup> <sup>drainage ditch DP 5/31/90</sup> Looking at ditch along SE perimeter of property. Note debris.

11:52 No readings above background with monitoring equipment.

11:53 1-P<sub>8</sub>, S<sub>8</sub> <sup>DP 5/31/90</sup> <sup>south east DP 5/31/90</sup> Looking along east perimeter of property. Note hole in fence.

11:53 1-P<sub>9</sub>, S<sub>9</sub> <sup>DP 5/31/90</sup> Looking at holding pond, or storm water drainage basin.

11:55 1-P<sub>10</sub>, S<sub>10</sub> <sup>north east DP 5/31/90</sup> Looking NE at north perimeter and standing water where readings were obtained. Paul gets readings on OVA of 15-20 ppm in area of standing water. No readings on NW.

11:55 1-P<sub>11</sub>, S<sub>11</sub> <sup>north east DP 5/31/90</sup> Looking NE at north perimeter of property, at debris and junk in vicinity of standing water.

12:00 1-P<sub>12</sub>, S<sub>12</sub> <sup>DP 5/31/90</sup> <sup>east north DP 5/31/90</sup> Looking east at debris at corner of north east perimeter of property. Note no berm or fence for 100 feet along NE perimeter.

12:00 1-P<sub>13</sub>, S<sub>13</sub> <sup>DP 5/31/90</sup> Looking at berm created between Police Range and site property along northern perimeter. Note no berm or fence along 100 ft of NE perimeter.

Shelly Jones  
5/31/90

Rel 2 7/6/90



# D. and J. Trucking

5/31/90

- 12:05 Leaving property through front entrance. <sup>DP 5/31/90</sup> ~~Northwest through gate~~
- 12:07 PB turns off Level C cartridge protection <sup>DP 5/31/90</sup>
- 12:06 Looking <sup>southwest DP 5/31/90</sup> ~~along eastern~~ perimeter at debris outside fence. Dorothy enters through front gate <sup>DP 5/31/90</sup>
- 12:06 Looking east at cylinders near facility's <sup>northwest DP 5/31/90</sup> ~~eastern~~ perimeter. Dorothy leaves property through front entrance to decontamination area. <sup>DP 5/31/90</sup>
- 12:08 All commencing decontamination procedures of clothing.
- 12:09 All go off Level C cartridge protection.
- 12:09 PB turns off equipment and begins to pack equipment away. Matt helps out.
- 12:10 Pick-A-Part truck arrives and asks about site activity. Fellow on passenger side mentions AEA Pellet Co., Inc. is involved in the mulching activities at the site. He also mentioned the site was a dye factory before it became a junk yard.
- 12:20 Paul locks front entrance gate to facility
- 12:25 Truck is completely packed, all solid wastes packed in a garbage bag, tyres, hoses, plastic wrap is solid wastes, to be disposed of off site

RLS 5/31/90

Dorothy Power  
5/31/90

02-9005-05

Dead J. Trucking

NIGGIG

5/31/90

Photograph Log

All photographs taken by Dorothy Porter

<u>Photo No.</u>	<u>Description</u>	<u>Time</u>
1-P1, S1 DP 5/31/90	Photo looking southwest at standing pool of water. Note greenish tinge and petroleum sheen.	1135
1-P2, S2 DP 5/31/90	Photo looking northeast at truck loaded with junk. Note trailer home and junked equipment.	1140
1-P3, S3 DP 5/31/90	Photo looking north at junked equipment and debris. Note bulldozer and flat bed truck.	1140
1-P4, S4 DP 5/31/90	Photo looking northwest at fence near property line. Note debris.	1140
1-P5, S5 DP 5/31/90	Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.	1145
1-P6, S6	Photo looking east at woodchip mulch piles. Note recent tire tracks.	1146
1-P7, S7	Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.	1150
1-P8, S8	Photo looking northeast along southeast perimeter of property. Note hole in fence.	1153
1-P9, S9	Photo looking southeast at storm water drainage basin.	1153

263

All LJ 7/6/90

Dorothy Porter  
6/6/90

Photograph log continued

All photographs taken by Dorothy Pante

<u>Photo No.</u>	<u>Description</u>	<u>Time</u>
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1-P10, S10	Photo looking northeast at standing pool of water where readings on the OVA were obtained.	1155
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1-P11, S11	Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.	1155
------------	--	------

1-P12, S12	Photo looking east at junk and debris in eastern corner of property. Note no berm or fence.	1200
------------	---	------

1-P13, S13	Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.	1200
------------	---	------

1-P14, S14	Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires and debris.	1206
------------	--	------

1-P15, S15	Looking west at cylinders near site's entrance along northwest perimeter. Note storm drain across Avenue P.	1206
------------	---	------

Bill L D 7/6/90

264  
Dorothy Pante  
6/04/90

D. and J. Trucking  
310-328 Avenue P  
Newark, Essex County, New Jersey

02-9005-05

10

June 26, 1990

On-site inspection

NUS Personnel:

Dorothy Ponte	SM
Edmund Knyfcl	SSO
William Foss	SMO
Brian Farrell	Sampler
Bruce Sanders	Sampler

*[Handwritten signatures of Dorothy Ponte, Edmund Knyfcl, William Foss, Brian Farrell, and Bruce Sanders]*

The above personnel have read and understand the workplan and QA/QC procedures.

Sampling equipment was decontaminated and properly stored, to avoid recontamination before sampling activities, off site at the EPA, Edison, New Jersey on June 25, 1990 (time 9:30 - 12:45).

Weather: Sunny, approximately 68°F, light breeze from west. A few scattered high clouds.

0845 Above NUS personnel arrived at site at 0845 in a cube truck and suburban. Mulching piles previously on site (during 5/31/90 reconnaissance) have been removed.

265

*[Handwritten signature]* 7/6/90

*[Handwritten signature]* 6/26/90

D and J. Trucking  
6/26/90

02-9005-05

### Equipment Numbers:

OVA J 469759

HNu A 192120

Probe A 307147 10.20

minirad 428604

Explosimeter > D 307150

O<sub>2</sub> meter

Canon cameras 428512 307126

0900 Began to set up decon area near a storm drain by front entrance to site. Ed setting up monitoring instruments.

0905 Mr. Calvin Chambers arrived at site. He unlocked the front entrance, however the mulching company pad lock remained. The gate was opened by Mr. Chambers by removing wire which held the top right gate to the fence. His car is parked on the site's concrete pad.

Six dogs are on site.

0930 Background readings for OVA and HNu are 0 ppm.

Background reading for minirad 10 cpm

O<sub>2</sub> oxygen is set at 20.8% on O<sub>2</sub>/Explosimeter

% LEL has been calibrated to zero.

0934 Bill Foss prepared the trip blank. Dorothy Ponte is to be carrying it on her person during sampling of surface water.

266

all PD 7/6/90

Dorothy Ponte  
6/26/90



D. and J. Trucking  
6/26/90

02-900505

Rinsate samples collected:

<u>time</u>	<u>collection tool</u>
1020	Scoop
1125	Auger
1152	bowl
1232	trowel

rel DM 2/2/90

Depth Peris  
6/28/90

6/26/90

0940 Ed KnyfEd held a safety briefing. The following NUS personnel attended:

Dorothy Pante

Ed KnyfEd

Brian Farrell

Bruce Sanders

William Foss

*[Handwritten signatures: Dorothy Pante, Ed KnyfEd, Brian Farrell, Bruce Sanders, William Foss]*

0940 Mr Chambers left site and will return about noon. He gave us permission, when asked by Ed, to use water from a faucet on site for decon purposes.

0950 Ed KnyfEd and Dorothy Pante go on level C and enter property to do a quick reconnaissance of the site and ascertain if indeed a scoop is necessary to obtain surface water samples as SW1 and SW2/SW3 sample locations.

1000 Ed and Dorothy return to decon area and go off level C. They discuss sampling strategies with other NUS team members. They also concur from monitoring instrument readings and slight breeze, that level 'C' need be worn only by samples, goggles for others.

1030 Leave decon area, enter site (Ed, Dorothy, Brian and Bruce) and leave to location SW1/SED1. Brian and Bruce go on level 'C'. Dorothy and Ed use level 'D' with safety goggles.

1035 Brian and Bruce on level 'C'. Brian preparing test bottle with TCL and SW1 sample water. Ed using monitoring instruments. NO <sup>above 6/26/90 DP</sup> levels above background in breathing zone were noted at this location.

*[Handwritten signature: RLP]* 7/6/90

*[Handwritten signature: Dorothy Pante]*  
6/26/90

D and J. Trucking  
6/26/90

02-9005-05

1036 The OVA fluctuated between 1-3 ppm near SW1/SED  
drainage ditch location near water.

1040 15 drops HCL to bring pH test <sup>DP 6/26/90</sup> SW1/SED solution down to  
pH 2 from original pH of <sup>DP 6/26/90</sup> 8.10.  
VOAs were preserved with 15 drops HCL accordingly.

1050 No readings above background <sup>in breathing zone. DP 6/26/90</sup> water turbid in color.  
Readings were taken in breathing zone. Water also very sunny in appearance.

1055 I.P.S. Photo of Brian Farrell taking SW1 from drainage ditch.  
at a bearing of 117° and a distance of 71 feet 2 inches.  
Distance and bearing measured from <sup>a metal pole near the property SW perimeter</sup> pole to sampling point.  
SW1 is also designated as the MS/MSD sample for this matrix = water.

1105 Spoke with Bill Foss back at the command post. Mr. Ed  
Dunning (owner of heavy equipment near gate) <sup>arrived. DP 6/26/90</sup> a Mr. Dunning  
mentioned the dogs on site turn green or purple during rain storms.

1116 I.P.S. Photo of Brian taking SED 1 from drainage ditch  
at a bearing of 117° and a distance of 71 feet 2 inches.  
Distance and bearing measured from <sup>metal pole DP 6/26/90</sup> pole to sampling  
location. Same reference point of SW1. DP 6/26/90  
SED-1 appearance - sample is organic mulch, rather decayed.  
OVA readings: 10-20 ppm <sup>directly above bowl DP 7/10/90 DP</sup> for 1 min, otherwise no  
readings above background in breathing zone.

1135 Moving to SW2/SED2, SW3 location near property corner  
by drainage ditch, directly across from wide drainage ditch  
on adjacent property. Sample SW3 is a duplicate of  
surface water sample SW2. Sample SW3 will be collected from  
the same location and depth as sample SW2.

692

Rel L D 7/6/90

Quinty/Lato  
6/26/90

D. and J. Trucking  
6/26/90

02-9005-05

1136 OVA 10-30 ppm, right at undisturbed water surface  
No readings from HNA at same level above water surface.  
pH of water is 8.  
No readings above background in breathing zone.

1138 6 drops HCL brings pH of surface water to test  
OVA bottle down to 4 pH.

1140k253 samples being taken near 2 growth of algae in drainage ditch  
Photo of Bruce taking SW2/SW3 from drainage  
ditch at a bearing of 247° and a distance of 20 feet  
Bearing & distance from fence corner pole to sample point.

1142-P-4,54 Photo of Bruce Sanders taking SW2-2 from drainage  
ditch located across from wide drainage ditch on  
adjacent property at a bearing of 247° and a distance of  
20 feet same location as SW2/SW3 reference point.  
2-15 ppm OVA near sed sample  
0 ppm HNA near sed sample  
No readings above background in breathing zone.

1207 Bruce, Ed, Dorothy and Brian return to decon area. Bruce and Ed  
go off level C.  
Brian and Bruce commence to decon sample  
bottles

1209 Bill mentions that Mr. Chambers will have us back up  
after 4:30, should our site sampling extend past  
this hour as per earlier conversation with Mr. Chambers  
while we were collecting surface water samples.

1210 Spoke with a vagrant who claims to have lived on the  
site property for 12 years. He lives in the mobile home and  
other junked trailers. He also mentioned the site had been a  
dye factory at one time in the past.

Bill L. J. 7/6/90

Quincy Pines  
6/26/90

1255 Brian, Ed, Dorothy and Bruce enter site after a short break, heading for surface soil location by front entrance. No readings above background in breathing zone. Brian and Bruce on level 'C' at this time too.

1300(p.m.) Brian and Bruce have dug into mulch to soil at s1. Soil is extremely compacted and dark from the organic layer of overlying mulch. Coarse, gravelly in texture beneath the thin organic layer. Bricks and large pebbles are encountered within a few inches.

4-10 ppm on OVA > readings just above soil sample

0 ppm on HNU

2-3 ppm on OVA in air breathing zone of samplers  
photo of sample  
northwestern corner DP 6/29/90

1302 1-P.S. Brian collecting surface soil sample s1 near front entrance at a bearing of  $110^\circ$  and a distance of 94 feet 2 inches. Distance and compass bearing measured from <sup>wood</sup> pole <sup>DP 7/5/90</sup>. 55 gallon drum on top of sample location along with fence. DP 6/29/90. s1 is also designated as a mg/m3 sample for soil matrix. Standing pool of green tinged water was covered over with fresh mulch since on site reconnaissance conducted by NUS personnel on 5/31/90.

Sample s1 collected from a depth of 0 to 6 inches.

1325 Arrived at sample location s2 near corner of fence

photo of sample  
1327 1-P.S. Bruce collecting surface soil sample s2 near <sup>southwestern DP 6/29/90</sup> property line near <sup>DP 7/5/90</sup> corner. Soil has a nice brown texture. Sandy medium grained texture. s2 located at a bearing of  $45^\circ$  and a distance of 21 feet 3 inches from <sup>damned pole DP 7/5/90</sup> pole on fence. Sample collected from a depth of 0 to 6 inches.

Roll 2 July 7/6/90

• 271 <sup>DP 7/5/90</sup> <sup>US 101</sup>

1337 arrived at sample location S3

Soil profile: 0-6" organic layer

6"-10" clay sandy fill, until bricks were found

OVA fluctuated in the breeze from 10-100 ppm at sample surface. <sup>0.4 ppm</sup> from sample collected in bowl; reading obtained on OVA directly after sample.

1340:15 Photo of Brian Furel taking an auger soil sample - S3 at a bearing of 70° and a distance of 119 feet from telephone pole at <sup>the western</sup> property corner. Sample collected from a depth of 10 to 14 inches.

No air readings above background in air breathing zone. Soil profile same as S3.

1350 Arrived at sample location S4. Soil profile: 0-10" mulch layer followed by water and large pebbles with more mulch. Moved auger hole location found same thing.

1400:15 Photo of S4 location with bubbles of gases coming from water. Sample location near drainage ditch along southwestern property border.

1420 Returned to decon area with surface soil samples and auger samples S2 and S3. Dorothy to call Rich Feinberg and inform him of our situation in regards to soil samples and problem of overlying mulch. Brian and Bruce off level 'C'.

1425 Dorothy spoke to Rich Feinberg by phone informing him of our situation. She mentioned the site had been regraded and the large piles of mulch removed from site. The remaining mulch was regraded and the site now appears flat. A layer of 12-18 inches of mulch lies above the surface soil. Within a foot of the surface of the mulch water is encountered making auger for soil samples next to impossible. Some areas mulch appears to be over a yard thick.

Rich P. 7/6/90

272 Dorothy



D. and J. Trucking  
6/26/90

02-9005-05

1425 (continued conversation between Dorothy and Rich Fernberg)  
I mentioned we were unable to get aiger samples, Rich told me to get what we could get, even if we were only able to obtain surface soil samples from beneath the mulch. I also mentioned about Mr. Janniger's conversation with Bill in which he stated they dogs on site turn green and purple in color during the rain. Rich requested I note this in the logbook.

1443 Patches of green and purple colored mulch were noted on site. The discoloration of the dogs fur may be attributable to the mulch on site. Weather conditions: Sunny, light breeze from south west at about 5-7 mph. High scattered clouds. About 84° F. DJA  
7/6/90

1445 Brian, Bruce back on level 'C'. Ed, Dorothy, Brian and Bruce return to site towards sample location S5.

1446 Arrive at sample location S5 directly across from loading dock of adjacent industry (Union Carbide)

No readings above background in breathing zone.  
1-2 ppm on OVA directly above surface soil sample.  
No readings on the HNu above background.

1450 19, Sq. Photo of Bruce Sanders collecting surface soil S5 collected from a depth of 12 to 16 inches beneath mulch. Soil brown and sandy in texture.

Soil depth measured from a depth below at least 1 foot of overlying mulch.

Sample S5 collected at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point near the southwestern drainage ditch.

Soil sample collected from a depth of 0 to 4 inches below soil. No readings above background in breathing zone.

Robt D 7/6/90

273 D. and J. Fernberg

6/24/90

311  
310 DP6/24/90  
1507 Arrived at sample location ~~S6, ST (top of S6)~~. This was former location near a huge mulch pile which has since been removed and graded over with remaining mulch.

Brian dug at least 2 feet into the mulch, with mulch at least one foot beneath his feet.

No readings above background in breathing zone. 311 DP6/24/90  
1515 Photo of Brian digging hole at location ~~S6, ST~~ 197 feet from same pole as sample reference point ~~ST~~, and at bearing of  $109^{\circ}$ . Spoke with Bill Fager at command post by walk talk to inform him ~~S6, ST~~ work was being scratched from sample list at this location. 311 DP6/24/90

1520 Arrived at new location for sample S8, more toward NE perimeter of property by debris near berm. Previous location was covered over by what appeared to be as much mulch as sample location ~~S6, ST~~. 311 DP6/24/90

1525 Photo of Bruce obtaining sample S8 (Fager berm). Photo taken at a bearing of  $315^{\circ}$  and a distance of 16.5 feet to pole fence located 60 feet south from east corner of property. 311 DP6/24/90  
S8 was collected from a depth of 0 to 6 inches. 311 DP6/24/90

No readings above background in breathing zone.

4/26/90

1540 Arrived at sample location 59.

Brian dug down approximately 18 inches through the mulch. Water was encountered 12 inches beneath the surface of the mulch layer.

No readings above background in breathing zone.

5-6 ppm on OVA near surface soil sample collected by Bruce in bowl, so far.

1600 Bruce bailed out more water to reach soil available near mulch. 14 ppm on OVA near the surface soil sample collected by Bruce in bowl.

1603 HPS Photo of Bruce taking surface soil sample 59 from a depth of 12-15 inches <sup>below mulch surface</sup> at a bearing of 140° and a distance of 197 feet <sup>from a pole</sup> near weed growth. Soil collected from a depth of 0 to 5 inches below soil surface.

Wood pole 2 located near the northeastern corner of the property, and is treated wood. DP 4/29/90

1604 Mr. Chambers, site contact, has returned to the site. Bill Foss advised us of this from the command post via walkietalkies.

1608 Dorothy, Ed, Bruce and Brian return to decon area. Bruce and Brian off level 'C'.

275

RLD 7/6/90

Dorothy Foss  
4/29/90

6/26/90

1609 Dorothy discusses sampling strategy with Bill Foss. They concur that sample map should be redone to reflect changes made in sampling locations instead of alter Bill's labeling strategy. These changes will be corrected in log book to reflect changes in map.

1635 Ed, Dorothy, Brian and Bruce re enter site to sample location 511 which has been swapped "number wise" with former sample location 56, 57. Sample 56, 57 is now located near northeast perimeter of property approximately 20 feet from the berm separating the site and the Police Academy site pistol range. Former site 56, 57 will now be known as sample location 511 on the map and notations in log book referring to this location have appropriately been relabeled. Bruce and <sup>Brian 6/26/90</sup> Ed go on level C at this time.

1650 <sup>super soil DP 6/26/90</sup> 1-P<sub>13</sub> Photo of Bruce Snider taking sample 56, 57 from a depth of 6 to 18 inches. Sample taken at a bearing of 91° and a distance of 34 feet 9 inches <sup>wood pole 2 DP 7/3/90</sup> from <sup>DP 7/3/90</sup> ~~map~~ <sup>DP 7/3/90</sup> ~~point~~ <sup>DP 7/3/90</sup> on property. <sup>DP 7/3/90</sup> Soil is sandy in texture and brown in color. <sup>DP 7/3/90</sup>

No readings above background in breathing zone.

No readings directly above super soil sample either, on O<sub>2</sub> or H<sub>2</sub>.

Wood Pole 2 located near northeastern <sup>DP 7/3/90</sup> ~~corner~~ <sup>DP 7/3/90</sup> of property. <sup>DP 7/3/90</sup>

RLP 7/6/90

DP 7/3/90

D. and J. Trucking  
6/26/90

02-9005-05

1700 Arrive at sample location S10 which is being used as a background sample due to the trees growing nearby. (The rest of the site is covered with mulch or is fairly barren)

1705 J.P.S. Photo of Brian Ferrell collecting sample S10 from a depth of 90" and a distance of 72 feet 4 inches from pole at fence. 30 ft from property's southeastern line. No readings above background in breathing zone.

1707 J.P.S. Photo looking at thickness of mulch pile recently regraded over entire site since site reconnaissance on 5/31/90 conducted by NUS personnel.

1708 J.P.S. Photo looking at trailer filled with large paint cans. Trailer located in eastern corner of property in close proximity to sample location S10.

1720 J.P.S. Leave site and commence decon procedures of personal clothing and equipment. Brian and Bruce off level 'C'.

1740 J.P.S. Decon of equipment complete. Packing of equipment into Suburban vehicle. Bill filling out paperwork for shipping samples via Federal Express.

277

R. L. D. 7/6/90

J. P. S.  
6/28/90

6/24/90

1845 Completed packing samples and equipment into vehicles. All solid waste was double bagged to be disposed of in dumpster at NUS Edison.

Decon water was disposed down a nearby sewer drain as prearranged by the Passaic Valley Sewerage Commissioners (PVSC). Sewer drain located just off site's front entrance where a paint can containing decon was brought back to NUS as requested by PVSC.

Decon water consisted of a mild soap (Alconox) and tap water.

1900 Leave site and head toward Newark International Airport to drop off samples contained in coolers (Soft then) at a Federal Express, for shipment to the labs for analysis as prearranged by NUS.

1915 Arrive at Federal Express. Encounter difficulties in shipping coolers as Federal Express will not ship any container they observe to appear to be leaking. One cooler we repacked into another cooler, which was in better condition, to verify that samples inside were not leaking in the first. Samples were properly packed and not leaking, nor was the double bagged ice from the cooler. Therefore we determined leakage was from another source, and noted water on the floor of the cube truck. The contents of the cooler were repacked into the other

RLL &amp; ID 7/6/90

Dread I  
6/24/90



6/16/90

cooler as a precaution anyway, to ensure shipment. The other four coolers NUS personnel were able to wipe dry with paper towels. It appears damaged corners to the coolers permitted water at the cube truck floor to seep in. Therefore when tipped on end, some of this water would drip out onto the Federal Express scale. The coolers, properly dried off, were shipped off by Federal Express to their prearranged lab destinations.

1930

2016 Arrive back at NUS, Edison to unload equipment from vehicles. Monitoring instruments are plugged into the electricity to be recharged.

2045 Vehicles are returned to EPA, Edison.

YLLS 11 7/1/90

Daddy Pinta  
6/16/90

D. and J. Trucking

03-9005-05

6/26/90

Notes:

During the sampling event, difficulties were encountered when attempting to collect surface and subsurface soil samples due to a thick layer of mulch on site. The site had been regraded since an on-site reconnaissance conducted by NUS Corporation on Thursday, May 31, 1990. Large piles of mulch present during the on-site reconnaissance had since been removed and/or leveled. Mulch was spread out over the entire site's soil surface, and in several areas was over 3 feet thick. The mulch tended to retain water which also interfered with the collection of soil samples. As a result, two soil subsurface samples, 54 and 511, were not collected.

Construction debris, consisting mainly of bricks were also encountered when obtaining subsurface soil samples. As a result, deeper samples were restricted to the upper part of the soil profile. No readings above background were detected by the HHA in the lithosphere nor above environmental samples collected.

Readings above the mulch surface during the sample event ranged from 50 to 100 ppm on the OVA at the various soil sampling locations. All soil sample readings recorded in the log book reflect readings detected by the OVA of the sample itself in the stainless steel bowl, with the exception of one reading obtained from a hole at sample location 52. This procedure eliminated the background mulch reading and provided a true reading of the soil sample collected. DP 6/29/90

280

Yell L 7/6/90

John Panto



**NOT TO SCALE**


# NUS

## CORPORATION

Wooty Pinta 7/05/90

6/26/90

Photograph Log

All photographs taken by Dorothy Ponte

<u>Photo No</u>	<u>Description</u>	<u>Time</u>
1-P <sub>1</sub> , S <sub>1</sub>	Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site.	1055
1-P <sub>2</sub> , S <sub>2</sub>	Photo of Brian Farrell collecting surface water sediment sample SED 1 from the same drainage ditch location as sample SW1.	1116
1-P <sub>3</sub> , S <sub>3</sub>	Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples are located in a drainage ditch near the southern corner of the property. SW3 is a duplicate sample of SW2, and was collected from the same location and depth as SW2.	1140
1-P <sub>5</sub> , S <sub>5</sub>	Photo of <sup>Brian Farrell 06/26/90</sup> Bruce Sanders collecting surface soil sample 1202 S1 near the front entrance of the site.	
1-P <sub>4</sub> , S <sub>4</sub>	Photo of Bruce Sanders collecting surface water sediment sample SED 2 from the same drainage ditch location as samples SW2/SW3.	1142
1-P <sub>6</sub> , S <sub>6</sub>	Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property.	1327

All LTP 7/8/90

D. Ponte 7/6/90

Photograph Log continued

All photographs taken by Dorothy Ponte

<u>Photo No.</u>	<u>Description</u>	<u>Time</u>
1-P <sub>7</sub> , S <sub>7</sub>	Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site.	1340
1-P <sub>8</sub> , S <sub>8</sub>	Photo of auger soil sample location S <sub>4</sub> , located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.	1400
1-P <sub>9</sub> , S <sub>9</sub>	Photo of Bruce Sanders collecting surface soil sample S <sub>5</sub> from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter.	1450
1-P <sub>10</sub> , S <sub>10</sub>	Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S <sub>11</sub> . Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.	1515
1-P <sub>11</sub> , S <sub>11</sub>	Photo of Bruce Sanders collecting surface soil sample S <sub>8</sub> located near the northeastern border of the property.	1525

Photograph log continued

All photographs taken by Dorothy Parke

Photo	Description	Time
1-P <sub>12</sub> , S <sub>12</sub>	Photo of Bruce Sanders collecting surface soil sample S9 from soil located near debris along the northeastern perimeter of the property.	1603
1-P <sub>13</sub> , S <sub>13</sub>	Photo of Bruce Sanders collecting subsurface soil samples S6, S7 located near the property's northeast perimeter. Sample S7 is a duplicate subsurface soil sample collected from the same location and depth as S6.	1650
1-P <sub>14</sub> , S <sub>14</sub>	Photo of Brian Ferrell collecting background surface soil sample S10 from eastern corner of property near live trees.	1705
1-P <sub>15</sub> , S <sub>15</sub>	Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.	1707
1-P <sub>16</sub> , S <sub>16</sub>	Photo looking at a trailer filled with large paint cans. Trailer located in east corner of property.	1708

All P.D. 2/9/90

Dorothy Parke 7/03/90



**REFERENCE NO. 3**



# Preliminary Assessment

Avenue P Site  
309-465 Avenue P  
Newark, Essex County  
NJD 980504831



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

IDENTIFICATION

01 STATE 02 SITE NUMBER  
NJ D980504831

I. SITE NAME AND LOCATION

01 SITE NAME: ADDRESS, ADDRESS OF OWNERSHIP OR OTHER	02 STREET: ACUTE NO., OR SPECIFIC LOCATION CENTER
Avenue P Site	309-465 Avenue P
03 CITY	04 STATE 05 ZIP CODE 06 COUNTY 07 SOURCE CODE 08 DIST
Newark	NJ 07105 Essex 07 14
09 COORDINATES: LATITUDE LONGITUDE	Block 5020 Lots 14-16, 20-24, 32
40 43 18 74 07 53	

10 DIRECTIONS TO SITE, SHOWING THE ROUTE FROM HIGHWAY  
From NJTPK Exit #14 take Rt. 22 East towards 1 & 9 North, take Delancy St. Exit. Turn left onto Delancy and immediate right onto Stockton. Turn right onto Wilson Ave. Turn left onto Avenue P. Site is on left between White Rose Meat Corp and

III. RESPONSIBLE PARTIES Abandoned Alliance Chem Whse.

01 OWNER'S NAME	02 STREET: ADDRESS, ADDRESS, ADDRESS
Newark Redevelopment & Housing Authority	57 Sussex Avenue
03 CITY	04 STATE 05 ZIP CODE 06 TELEPHONE NUMBER
Newark	NJ 07103 (201) 430-2430
07 OPERATOR: IF OTHER AND DIFFERENT FROM OWNER	08 STREET: ADDRESS, ADDRESS, ADDRESS
Same	
09 CITY	10 STATE 11 ZIP CODE 12 TELEPHONE NUMBER
13 TYPE OF OWNERSHIP: (Circle one)	14 TYPE OF OWNERSHIP: (Circle one)
<input type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL	<input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN

15 DATE OF OPERATION: (Circle one) ☐ A. RCRA 8001 DATE RECEIVED ☐ B. UNCONTROLLED WASTE SITE: (Circle one) DATE RECEIVED ☐ C. NONE

V. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION	02 Check of this entry
<input checked="" type="checkbox"/> YES DATE 2 8 80	<input checked="" type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR
<input type="checkbox"/> NO	<input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____
CONTRACTOR NAME(S): _____	

03 SITE STATUS: (Circle one) ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN 04 YEARS OF OPERATION ☐ D. UNKNOWN

05 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT KNOWN OR ALLEGED  
Numerous metals, volatile organic compounds, petroleum compounds, cyanide and sulfides have been identified in the soil and in drums unearthed at the site. The stream adjoining the site when sampled contained volatile organics and epox metals.

06 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Large quantities of hazardous wastes have been found at the site. No subsurface explorations have been conducted to determine the nature or extent of subsurface contamination. Wastes presumably buried at the site threaten the area with the possi-

V. PRIORITY ASSESSMENT bility of fire or gas release.

01 PRIORITY FOR INSPECTION: (Circle one) ☒ A. HIGH ☐ B. MEDIUM ☐ C. LOW ☐ D. NONE

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 IF Applicable: (Circle one)	03 TELEPHONE NUMBER
Mark Gruzlovic	NJDEP/DHWM/BFO, Central	(609) 426-0700
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION
Dennis Gray	NJDEP	DHWM/BPA
		07 TELEPHONE NUMBER
		(609) 292-4206
		08 DATE
		1. 11. 88



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 2 - WASTE INFORMATION

1. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Circle all that apply) <input checked="" type="checkbox"/> A SOLID <input type="checkbox"/> B POWDER, FINE <input type="checkbox"/> C SLUDGE <input type="checkbox"/> D OTHER <input type="checkbox"/> E SLURRY <input type="checkbox"/> F LIQUID <input type="checkbox"/> G GAS	02 WASTE QUANTITY AT SITE (Indicate if waste quantity has an uncertainty) TONS _____ CUBIC YARDS _____ NO. OF DRUMS 2000	03 WASTE CHARACTERISTICS (Circle all that apply) <input checked="" type="checkbox"/> A TOXIC <input type="checkbox"/> B CORROSIVE <input type="checkbox"/> C RADIOACTIVE <input checked="" type="checkbox"/> D PERSISTENT <input type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input checked="" type="checkbox"/> G FLAMMABLE <input type="checkbox"/> H IGNITABLE <input type="checkbox"/> I HIGHLY VOLATILE <input type="checkbox"/> J EXPLOSIVE <input type="checkbox"/> K REACTIVE <input type="checkbox"/> L INCOMPATIBLE <input type="checkbox"/> M NOT APPLICABLE
---	---	--

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 QUANTITY AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLW	SLUDGE			
OLW	OLY WASTE	Unknown		OLW Identified at site
SOL	SOLVENTS	Unknown		SOL Identified at site
PED	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		OCC Identified at site
IOC	INORGANIC CHEMICALS	Unknown		IOC Identified at site
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		MES Identified at site

IV. HAZARDOUS SUBSTANCES (See Appendix for Hazard Classification and CAS Numbers)

CATEGORY	01 SUBSTANCE NAME	02 CAS NUMBER	03 STORAGE/ DISPOSAL METHOD	04 CONCENTRATION	05 MEASURE OF CONCENTRATION
MES	Arsenic	7440-38-2	Soil samples	86703	mg/kg
MES	Cadmium	7440-43-9	Soil samples	43.3	mg/kg
MES	Chromium	7440-47-3	Soil samples	3763.6	mg/kg
MES	Lead	7439-92-1	Soil samples	63007	mg/kg
MES	Mercury	7439-97-6	Soil samples	137.5	mg/kg
MES	Zinc	7440-66-6	Soil samples	4674	mg/kg
OCC	Toluene	108-88-3	Soil samples	2.76	mg/kg
OCC	Total Xylenes	1330-20-7	Soil samples	2.63	mg/kg
OLW	Naphta	803-306	Soil samples	21.00	mg/kg
SOL	Chlorobenzene	108-90-7	Plum Creek Water	.412	mg/kg
SOL	Trans Dichloroethene	156-60-5	Plum Creek Water	.155	mg/kg
SOL	Trichloroethylene	79-01-6	Plum Creek Water	.022	mg/kg
OCC	Benzene	71-13-1	Plum Creek Water	.015	mg/kg
OLW	Petroleum Hydrocarbons		Soil composite	10300	mg/kg
IOC	Sulfide		Soil composite	1080	mg/kg
OCC	Cyanide		Soil composite	3620	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (See Appendix for Information on Sources of Information)

Reference V



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

IDENTIFICATION

01 STATE 02 SITE NUMBER

1. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION

02 ☐ OBSERVED DATE \_\_\_\_\_

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Although there has been no subsurface examination it is quite probable that groundwater is contaminated. The groundwater is at a depth of fifteen feet, and soil borings conducted in the 1970's reveal landfilled waste to a depth of 11-55 feet across the site. Ref. VII

01 ☒ B. SURFACE WATER CONTAMINATION

02 ☒ OBSERVED DATE 9/87

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Leachate from contaminated soil has been observed entering the Adjacent Plum Creek. At present the oily contaminants are restricted to the creek by a containment structure put in place by the NR & HA environmental consultant. Ref. IV, VI

01 ☒ C. CONTAMINATION OF AIR

02 ☐ OBSERVED DATE \_\_\_\_\_

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Ref. I, IV, V

Reaction of incompatible chemicals buried beneath the site could possibly result in the contamination of the air by cyanide gas, heavy metal particulates or volatile gases, all of which have been identified in the waste already excavated at the site.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS

02 ☒ OBSERVED DATE 1985

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Fire and explosion has resulted from unearthing of red phosphorous and numerous drums of flammable hazardous wastes have also been unearthed. Type or quantity of wastes still buried beneath the site is unknown. Ref. IV, I, II

01 ☐ E. DIRECT CONTACT

02 ☐ OBSERVED DATE \_\_\_\_\_

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

The site is under security patrol and the workers at the site wear protective clothing. Direct contact with wastes at this site is unlikely, however the history of property ownership and aerial photography suggests that the contamination may not be limited to this site. Ref. V, VI

01 ☒ F. CONTAMINATION OF SOIL

02 ☒ OBSERVED DATE 1983

☐ POTENTIAL

☐ ALLEGED

03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

There is significant documentation of soil contamination but the depth of this contamination is not known. The history of ownership and aerial photography suggest that the contamination may not be restricted to this site. Ref. I, V

01 ☐ G. DRINKING WATER CONTAMINATION

02 ☐ OBSERVED DATE \_\_\_\_\_

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

There are no drinking water sources downgradient of the site. The City of Newark utilizes a water source greater than 20 miles from Avenue P.

Ref. I

01 ☐ H. WORKER EXPOSURE/INJURY

02 ☐ OBSERVED DATE \_\_\_\_\_

☐ POTENTIAL

☐ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Worker exposure at the site is unlikely; however the history of property ownership and aerial photography suggests that the contamination may extend into neighboring properties, consequently workers at these sites may be at risk.

Ref. V, VIII

01 ☒ I. POPULATION EXPOSURE/INJURY

02 ☐ OBSERVED DATE \_\_\_\_\_

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

The greatest threat to population exposure is the potential for fire or the release of poisonous gases due to the reaction of improper contained, incompatible or highly reactive chemicals buried beneath the site.

Ref. I, II, IV, V, VI



## POTENTIAL HAZARDOUS WASTE SITE

## PRELIMINARY ASSESSMENT

01 STATE OF SITE NUMBER

## PART 3 - DESCRIPTIVE

## HAZARDOUS CONDITIONS AND INCIDENTS

## I. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ **1. DAMAGE TO FLORA**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☒ **POTENTIAL**☐ **ALLEGED**

Chemicals hazardous to the growth of plant life have been excavated from the site. At present the site is largely devoid of vegetation.

Ref. I, II, IV

01 ☒ **2. DAMAGE TO FAUNA**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☒ **POTENTIAL**☐ **ALLEGED**

Chemicals hazardous to animal life have been excavated from the site. Wastes escaping the site via the Plum Creek may have adversely impacted fauna in this stream and the Newark Bay.

Ref. I, II, IV

01 ☒ **3. CONTAMINATION OF FOOD CHAIN**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☒ **POTENTIAL**☐ **ALLEGED**

Wastes such as heavy metals, which by bioaccumulation adversely affect the food chain, have been identified at the site.

Ref. IV, V, VI

01 ☒ **4. UNSTABLE CONTAINMENT OF WASTES**  
04 NARRATIVE DESCRIPTION02 ☒ OBSERVED (DATE 1983)☐ **POTENTIAL**☐ **ALLEGED**

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Thousands of leaking drums and contaminated soil has been excavated, but the extent of subsurface contamination has yet to be determined.

Ref. I, II, IV, VI

01 ☒ **5. DAMAGE TO OFFSITE PROPERTY**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☐ **POTENTIAL**☒ **ALLEGED**

Leachate exiting the site via the Plum Creek may have affected the Newark Bay. The history of property ownership and aerial photography suggest that there may be extensive contamination of offsite properties.

Map A Ref. I, IV, VI

01 ☐ **6. CONTAMINATION OF NEARBY STORM DRAINS, WWTPs**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☐ **POTENTIAL**☐ **ALLEGED**

It is unlikely that wastes exiting the site will adversely affect the nearby Passaic Valley Sewerage Authority.

Map A,B Ref VI

01 ☒ **7. ILLEGAL UNAUTHORIZED DUMPING**  
04 NARRATIVE DESCRIPTION02 ☐ OBSERVED (DATE \_\_\_\_\_)☐ **POTENTIAL**☒ **ALLEGED**

This site, as well as numerous nearby properties, were utilized for illegal dumping of wastes for many years.

Ref. V

01 ☐ **8. DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS**

In the event of fire or the release of poisonous gasses motorists on the nearby New Jersey Turnpike would be at risk.

Maps A,B Ref. IV

II. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

## IV. COMMENTS

The NJDEP Division of Water Resources should be made aware of the hazard to surface water and groundwater. The Bureau of Compliance and Technical Services should be requested to conduct a PRP search and based on the historical evidence investigate nearby properties for hazardous waste.

## SOURCES OF INFORMATION

Map A USGS, Elizabeth QUAD

Map B Newark Hagstrom Co.

Map C Newark Tax Map

Map D Site Map, DHWM/ BFO

Map E Historical Maps, NJTPK Authority

Ref. I Site Inspections, DHSM, DHWM/  
Central BFORef. II EPA Pollution Report DHWM/  
Central BFORef. III Administrative Consent Order  
Ref. IV Memo, DHWM/Central BFO, Metro BFO, BPARef. V Site History & Work Plan DHWM/  
Central BFO, Metro BFORef. VI Correspondence DHSM, DHWM Central  
BFO, Metro BFO

Ref. VII Disruption Request SWA 0714K

Ref. VIII D&amp;J Trucking DHWM/BPA





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED <small>(CHECK AT THIS ADDRESS)</small>	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPOES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE <small>(Specify)</small>				
<input type="checkbox"/> H. LOCAL <small>(Specify)</small>				
<input type="checkbox"/> I. OTHER <small>(Specify)</small>				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE DISPOSAL <small>(CHECK AT THIS ADDRESS)</small>	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT <small>(CHECK AT THIS ADDRESS)</small>	05 OTHER
<input type="checkbox"/> A. SURFACE IMPCUNDMENT	<u>unknown</u>		<input type="checkbox"/> A. INCENERATION	<input type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES	<u>unknown</u>		<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND	<u>unknown</u>		<input type="checkbox"/> C. CHEMICAL PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	<u>None</u>
<input type="checkbox"/> E. TANK, BELOW GROUND	<u>unknown</u>		<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL	<u>unknown</u>		<input type="checkbox"/> F. SOLVENT RECOVERY	06 AREA OF SITE
<input type="checkbox"/> G. LANDFARM	<u>unknown</u>		<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	<u>approx 8</u> Acres
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER <small>(Specify)</small>	
<input type="checkbox"/> I. OTHER <small>(Specify)</small>				

07 COMMENTS

The site was utilized for unpermitted dumping of various wastes for a great number of years.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (CHECK ONE)

☐ A. ADEQUATE, SECURE    ☐ B. MODERATE    ☐ C. INADEQUATE, POOR    ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (CITE SPECIFIC REFERENCES, E.G. STATE AQS, LATEST ANALYSIS, REPORTS)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

1. IDENTIFICATION

01 STATE NJ 02 SITE NUMBER D980789796

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)			02 STATUS			03 DISTANCE TO SITE	
	SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED	A.	25 (mi)
COMMUNITY	A. <input checked="" type="checkbox"/>	B. <input type="checkbox"/>	A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input checked="" type="checkbox"/>	B.	(mi)
NON-COMMUNITY	C. <input type="checkbox"/>	D. <input type="checkbox"/>	D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>		

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)				
<input type="checkbox"/> A. ONLY SOURCE FOR DRINKING		<input type="checkbox"/> B. DRINKING (Other sources available) COMMERCIAL INDUSTRIAL IRRIGATION (No other water sources available)	<input checked="" type="checkbox"/> C. COMMERCIAL INDUSTRIAL IRRIGATION (Limited other sources available)	<input type="checkbox"/> D. NOT USED, UNUSEABLE
02 POPULATION SERVED BY GROUND WATER 0		03 DISTANCE TO NEAREST DRINKING WATER WELL 3 (mi)		
04 DEPTH TO GROUNDWATER 15 (ft)	05 DIRECTION OF GROUNDWATER FLOW East	06 DEPTH TO AQUIFER OF CONCERN 15-20 (ft)	07 POTENTIAL YIELD OF AQUIFER NA (gpd)	08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

09 DESCRIPTION OF WELLS (including depth, depth, and location relative to pollution and buildings)

Wells in the area are used for industrial purposes.

10 RECHARGE AREA		11 DISCHARGE AREA	
<input type="checkbox"/> YES	COMMENTS	<input checked="" type="checkbox"/> YES	COMMENTS The site is .5 mile from the Passaic River
<input checked="" type="checkbox"/> NO		<input type="checkbox"/> NO	

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)			
<input type="checkbox"/> A. RESERVOIR, RECREATION, DRINKING WATER SOURCE	<input type="checkbox"/> B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES	<input checked="" type="checkbox"/> C. COMMERCIAL INDUSTRIAL	<input type="checkbox"/> D. NOT CURRENTLY USED
02 AFFECTED POTENTIALLY AFFECTED BODIES OF WATER			
NAME:		AFFECTED	DISTANCE TO SITE
Passaic River		<input type="checkbox"/>	0.5 (mi)
Newark Bay		<input type="checkbox"/>	0.5 (mi)
Plum Creek		<input type="checkbox"/>	On site (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN			02 DISTANCE TO NEAREST POPULATION
ONE (1) MILE OF SITE A. 20000 NO OF PERSONS	TWO (2) MILES OF SITE B. 100000 NO OF PERSONS	THREE (3) MILES OF SITE C. 250000 NO OF PERSONS	0.5 (mi)
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 15500			04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The Ironbound section of Newark is west of the site. The site is in an industrial section of the city which has numerous workers on site during operating hours.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
NJ D980789796

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A.  $10^{-9} - 10^{-8}$  cm/sec ☒ B.  $10^{-8} - 10^{-6}$  cm/sec ☐ C.  $10^{-6} - 10^{-3}$  cm/sec ☐ D. GREATER THAN  $10^{-3}$  cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE ☒ B. RELATIVELY IMPERMEABLE ☐ C. RELATIVELY PERMEABLE ☐ D. VERY PERMEABLE  
(Less than  $10^{-9}$  cm/sec) ( $10^{-9} - 10^{-6}$  cm/sec) ( $10^{-6} - 10^{-3}$  cm/sec) (Greater than  $10^{-3}$  cm/sec)

03 DEPTH TO BEDROCK

65 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

Unknown (ft)

05 SOIL pH

Unknown

06 NET PRECIPITATION

12 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.5-3.0 (in)

08 SLOPE  
SITE SLOPE

5 %

DIRECTION OF SITE SLOPE

West

TERRAIN AVERAGE SLOPE

0 %

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (in miles)

ESTUARINE

OTHER

A 0.5 (mi)

B (mi)

12 DISTANCE TO CRITICAL HABITAT (or endangered species)

(mi)

ENDANGERED SPECIES: NA

13 LAND USE & ADJACENCY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

A On-site (mi)

B 0.5 (mi)

C >3 (mi)

D >3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is in a landfilled section of the Newark Bay Meadows. The underlying formation is the Brunswick sandstone and shale which is the emergent formation immediately west of the site.

VII. SOURCES OF INFORMATION (Give specific references, e.g., state files, sample analysis reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER		Soil, water and drum samples were taken	
SURFACE WATER		at the time of a drum removal operation	
WASTE		by the Cavanaugh Group on behalf of the	
AIR		NHRA.	
RUNOFF		Heavy metals, volatiles and	
SPILL		semi volatile compounds have been	
SOIL		identified in the waste..	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF _____ <small>NAME OF ORGANIZATION OR INDIVIDUAL</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description.)

VI. SOURCES OF INFORMATION Cite specific references. If U.S. State has, name employee records.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

L. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME NRHA		02 D-B NUMBER		08 NAME		09 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.) 57 Sussex Ave.		04 SIC CODE		10 STREET ADDRESS (P.O. Box, APO #, etc.)		11 SIC CODE	
05 CITY Newark		06 STATE 07 ZIP CODE NJ 07103		12 CITY		13 STATE 14 ZIP CODE	
01 NAME		02 D-B NUMBER		08 NAME		09 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, APO #, etc.)		11 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		12 CITY		13 STATE 14 ZIP CODE	
01 NAME		02 D-B NUMBER		08 NAME		09 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, APO #, etc.)		11 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		12 CITY		13 STATE 14 ZIP CODE	
01 NAME		02 D-B NUMBER		08 NAME		09 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, APO #, etc.)		11 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		12 CITY		13 STATE 14 ZIP CODE	
01 NAME		02 D-B NUMBER		08 NAME		09 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, APO #, etc.)		11 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		12 CITY		13 STATE 14 ZIP CODE	
III. PREVIOUS OWNER(S) (List those "RCRA" sites)				IV. REALTY OWNER(S) (if applicable, list those "RCRA" sites)			
01 NAME		02 D-B NUMBER		01 NAME		02 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		05 CITY		06 STATE 07 ZIP CODE	
01 NAME		02 D-B NUMBER		01 NAME		02 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		05 CITY		06 STATE 07 ZIP CODE	
01 NAME		02 D-B NUMBER		01 NAME		02 D-B NUMBER	
03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, APO #, etc.)		04 SIC CODE	
05 CITY		06 STATE 07 ZIP CODE		05 CITY		06 STATE 07 ZIP CODE	
V. SOURCES OF INFORMATION (See source references, e.g., state files, library studies, records)							



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (Last three periods first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analyses, reports)							





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE 07 ZIP CODE	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

L IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ D. SPILLED MATERIAL REMOVED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ E. CONTAMINATED SOIL REMOVED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

Heavily contaminated surface soils have been removed.

01 ☐ F. WASTE REPACKAGED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

Many drums were overpacked to facilitate removal.

01 ☐ G. WASTE DISPOSED ELSEWHERE  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ H. ON SITE BURIAL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ I. IN SITU CHEMICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ J. IN SITU BIOLOGICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ K. IN SITU PHYSICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ L. ENCAPSULATION  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ M. EMERGENCY WASTE TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ N. CUTOFF WALLS  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ P. CUTOFF TRENCHES/SUMP  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ Q. SUBSURFACE CUTOFF WALL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES Continued

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Z. APEA EVACUATED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE

03 AGENCY

A security service maintains a presence at the site

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE

03 AGENCY

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling analysis, reports)





Geo-Technical  
Associates, Inc.  
CONSULTING ENGINEERS

43 SOUTH AVENUE, P. O. BOX 129  
FAIRWOOD, NEW JERSEY 07023  
(201) 222-2008

# TEST BORING DATA

Project: Industrial River Urban Renewal Project  
Location: Avenue "P" Newark, New Jersey  
Sheet 1 of 1  
Boring Contractor: Wilscam Corp Boring Co.  
Instructor: PT  
Date Started: 6/17/74  
Date Completed: 6/17/74  
Surface Elevation: 16.0  
Ground water observations:  
Depth: 12'  
Date: 6/17/74  
Depth:  
Date:

Casing Blows	SAMPLE NO. DEPTH	BLOWS ON SPOON			REC.	SAMPLE IDENTIFICATION AND PROFILE CHANGE	D
		0 6	6 12	12 18			
5						TRASH FILL including paper, rags, wood, chemical waste, cans, cardboard barrels, glass, rubber hoses, electrical wire, rubber tires, paint waste & plastic bags	
10							
15							
20							
25						Brn coarse to fine SAND, little medium to fine Gravel, trace Silty Clay (Till)	23 25
	S-1 25.0' 26.0'	9	65		12"	Red-Brn Shale	
	D-1 26.0' 29.0'						
	D-2 29.0' 30.0'						
30						Bottom of Hole	30
35						Legend: S-X - Split Spoon Sample D-X - Rotary Drilling	
40							

O. Casing	3"	Wgt. Hammer on Casing	300#	Symbol	a.	s.	l.	t.
O. Spoon	2"	Wgt. Hammer on Spoon	40#	Proportions	and	some	little	trace
Core Drill	AW	Drop Hammer on Casing	24"	% By Wgt.	35 to 50	20 to 35	10 to 20	1 to 10
Core Dia.		Drop Hammer on Spoon	30"					

**REFERENCE NO. 4**



COUNTY OF ESSEX  
CONSIDERATION \$135,000.00  
REALTY TAX \$135  
DATE

THIS INDENTURE, made the 9th day of April,  
1974 between SUN CHEMICAL CORPORATION, a Delaware corporation,  
having its principal business office at 200 Park Avenue, in the  
Borough of Manhattan, County and State of New York, party of the  
first part, and D & J TRUCKING & WASTE CO., INC., a New Jersey cor-  
poration, having a place of business at 387 Avenue P, in the City  
of Newark, County of Essex and State of New Jersey, party of the  
second part,

W I T N E S S E T H:

That said party of the first part, for and in consideration  
of ONE HUNDRED THIRTY FIVE THOUSAND (\$135,000.00) DOLLARS, lawful  
money of the United States of America to it in hand well and truly  
paid by party of the second part at or before the sealing and de-  
livery of these presents, the receipt whereof is hereby acknowledged,  
and the said party of the first part being therewith fully satisfied,  
contented and paid, has given, granted, bargained, sold, conveyed  
and quitclaimed and by these presents does give, grant, bargain,  
sell, convey and quitclaim to the party of the second part and to  
his successors and assigns forever all those tracts or parcels of  
land and premises situate, lying and being in the City of Newark,  
County of Essex, State of New Jersey, and more particularly described  
in the Schedule hereto annexed and made part hereof.

REGISTER'S OFFICE  
ESSEX COUNTY, N.J.

APR 17 1 34 PM '74

11-1-74  
RECEIVED

BOOK 4472 PAGE 672

**This Deed**, made the 17th day of March

1978 .

Between **D & J TRUCKING & WASTE CO., INC.,**

a corporation existing under and by virtue of the laws of the State of  
having its principal office at  
in the

and State of of in the County of  
herein designated as the Grantor.  
And **HOUSING AUTHORITY OF THE CITY OF NEWARK**  
a body corporate and politic.

~~premises~~ located at 57 Sussex Avenue  
in the City of Newark in the County of  
Essex and State of New Jersey herein designated as the Grantees:

Witnesseth, that the Grantor, for and in consideration of **TWO HUNDRED TWENTY-FIVE  
THOUSAND (\$225,000.00) DOLLARS**-----

lawful money of the United States of America, to it in hand well and truly paid by the Grantees, at or  
before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, and the  
Grantor being therewith fully satisfied, does by these presents grant, bargain, sell and convey unto the  
Grantees forever,

All those tracts or parcel of land and premises, situate, lying and being in the  
City of Newark in the  
County of Essex and State of New Jersey, more particularly described as follows:

BEING the four tracts described and set forth in the  
Exhibits A, B, C and D attached hereto and made part hereof.

BEING the same premises conveyed to grantor herein by Sun  
Chemical Corporation by deed dated April 9, 1974 and recorded  
April 17, 1974 in the Register's Office of the County of Essex in  
Book 4472 of Deeds for said County at Page 673.

RECORDED  
APR 24 1978  
TREASURER'S OFFICE  
COUNTY OF ESSEX  
NEW JERSEY

EXHIBIT C

DESCRIPTION

THIRD TRACT:

Lot 10, Block 5020, Tax Maps, City of Newark, N. J.:

BEGINNING at a point in the westerly line of Avenue P, distant southerly along the same 618.86 feet from the southerly right of way line of the Newark and New York Branch of the Central Railroad of New Jersey;

Thence (1) along said line of Avenue P South 24 degrees, 01 minutes 40 seconds West, 41.85 feet;

Thence (2) North 4 degrees, 31 minutes 40 seconds East, 38.92 feet; and

Thence (3) South 87 degrees, 39 minutes 20 seconds East, 13.98 feet to the point and place of BEGINNING.

BEING commonly known and designated as No. 341-343 Avenue P, City of Newark, New Jersey and being Lot 10 in Block 5020 Tax Maps of the City of Newark and Parcel 24 in Block 5020, Project N.J. R-121, Industrial River Urban Renewal Project, Maps of the Housing Authority of the City of Newark.

BEING part of the same premises conveyed to D & J Trucking & Waste Co., Inc., a New Jersey corporation, by Sun Chemical Corporation by deed dated April 9, 1974 and recorded April 17, 1974 in the Register's Office of the County of Essex in Book 4472 of Deeds for said County at Page 673.

*R. J. L.*

EXHIBIT DFOURTH TRACT:DESCRIPTION

Lots 120, 122, 126, Block 5060, Tax Maps, Newark, N. J.:

**PARCEL NO. I:**

**BEGINNING** at a point in the Northeasterly line of lands conveyed by Joseph T. Castle and others to Consolidated Products Company, Inc. by deed dated May 7, 1926, and recorded in Deed Book G-74 page 440, distant therein Northwesterly measured along the said Northeasterly line of said tract of land six hundred eighty-five feet and sixty hundredths of a foot (685.60') from the Northwesterly line of Doremus Avenue; and from thence running (1) along said Northeasterly line of lands of Consolidated Products Company, Inc. and in continuation thereof North fifty-seven (57) degrees fifty-three (53) minutes West two hundred sixteen feet and seventeen hundredths of a foot (216.17'); and thence (2) North fifty-seven (57) degrees thirty (30) minutes West three hundred sixty-four feet and thirty-two hundredths of a foot, (364.32') to the line of lands now or formerly of David Cook; and thence (3) along said line of lands of said Cook North twenty-three (23) degrees fifty-five (55) minutes East two hundred forty-seven feet and sixty hundredths of a foot (247.60') to the line of lands now or formerly of Joseph Condit; and thence (4) along said line of lands of said Condit South fifty-five (55) degrees four (4) minutes East six hundred thirty-seven feet and sixty hundredths of a foot (637.60') to the line of lands now or formerly of Abigail Baldwin; and thence (5) along said last mentioned lands South thirty-seven (37)

*D. J. H.*

Lots 120, 122, 126, Block 5060 (continued)

degrees forty (40) minutes West two hundred seventeen feet and fifty hundredths of a foot (217.50') to the line of lands of the said Consolidated Products Company, Inc. and the point or place of Beginning, containing 3.24 acres more or less.

PARCEL NO. II:

BEGINNING at a point in the East right of way line of Avenue P one hundred twelve feet and forty-six hundredths of a foot (112.46') North fifty-seven (57) degrees thirty-six (36) minutes West from the Southwest corner of Parcel No. 1 above; thence in a Southerly direction along the East right of way line of Avenue P, one hundred feet and thirty-four hundredths of a foot (100.34') to a point where said line is intersected by the North line of a tract of land now or formerly belonging to the Central Railroad of New Jersey; thence South seventy-nine (79) degrees six (06) minutes East one hundred sixty-four and fifty-five hundredths of a foot (164.55') more or less along said North line of the Central Railroad of New Jersey; thence on a curve to the right with a radius of five hundred eighty-one feet and nineteen hundredths of a foot (581.19') for a distance of two hundred eighteen feet and nine hundredths of a foot (218.09') measured on the arc of said curve to a point in the South boundary line of Parcel No. 1 above; thence North fifty-seven (57) degrees thirty-six (36) minutes West three hundred sixty-four and seventy-four hundredths of a foot (364.74') more or less to the point of Beginning.

END 4600 PAGE 77.

Lots 120, 122, 126, Block 3060 (continued)

**PARCEL NO. III:**

**BEGINNING** at a point which in deed from Emile F. Kick to Peter A. Bothner, Jr. dated November 6, 1915 recorded in Deed Book V-56 page 80 is described as being at a stake set in a large ditch which said stake is at the most northwesterly corner of lands herein described, and thence along lands of the Central Railroad Company of New Jersey, the following courses and distances through the ditch and crossing Plum Point Lane, South 57 degrees 05 minutes East, 103.88 feet; thence still through the ditch South 51 degrees 50 minutes East, 80.25 feet; thence running still through the ditch, South 10 degrees 51 minutes East, 44.63 feet; thence running still through the ditch South 80 degrees 36 minutes East 48.20 feet; thence running still through the ditch, South 49 degrees 02 minutes East, 57.57 feet; thence running still through the ditch, South 63 degrees 18 minutes East 38.40 feet; thence running still through the ditch, South 39 degrees 02 minutes East 71.50 feet; thence running still through the ditch, South 80 degrees 55 minutes East 48.16 feet; thence running still through the ditch, South 69 degrees 26 minutes East, 70.40 feet; thence running still through the ditch, South 54 degrees 31 minutes East 66.50 feet to a ditch between the premises herein described and premises formerly of F. Millering bounding the premises herein described on the southeast; thence through said ditch and along line of land of said Millering, South 23 degrees 44 minutes West 269.70 feet to an old ditch lying between premises herein described and premises formerly of Williams



Lots 120, 122, 126, Block 5060 (continued)

bounding the same, on the southwest; thence North 57 degrees 36 minutes West, 254.80 feet; thence South 13 degrees 03 minutes West 136.58 feet; thence North 57 degrees 36 minutes West 315.96 feet; thence North 17 degrees 11 minutes East 408.68 feet; thence North 9 degrees 43 minutes East, 23.25 feet to the point or place of Beginning.

Excepting therefrom however, so much of said tract as was granted to City of Newark by Deed Book S-78 page 405, and being described as follows:

BEGINNING at a point of intersection of the north line of Award #15 with the west line of Avenue "P" as recently opened and widened, said point of intersection being 3577.12 feet north from the north line of Wilson Avenue, and as shown on a map in a report of Commissioner of Assessments for Local Improvements of the "opening and widening of Avenue "P" between Delancy St. and Ferry Street, also known as Lincoln H'way" adopted November 12, 1924; thence North along said west line of Avenue "P" as shown on said map; thence East along formerly southerly terminus line of Avenue "P" 7.07 feet to an angle in same shown on said map; thence still easterly along said formerly southerly terminus line of Avenue "P" 48.16 feet to another angle in the same as shown on said map; thence still East along said formerly southerly terminus line of Avenue "P" and South line of Award #13 22.06 feet to East line of Avenue "P" as shown on said map; thence

- South along said East line of Avenue "P" 262.71 feet to an angle in

S. J. H.

Lots 120, 122, 126, Block 5060 (continued)

same as shown on said map; thence still South along said East line of Avenue "P" 1.161 feet to the North line of Award #15 as shown on said Map; thence West along same, 75.64 feet to the place of Beginning.

Also excepting from Parcel III all that part thereof which lies west of Avenue "P".

All of the above described premises being also known and designated as Lot Nos. 120, 122 and 126 in Block No. 5060 on the official Tax Map of the City of Newark and more particularly described as follows:

BEGINNING at a point in the northeasterly line of lands conveyed by Joseph T. Castle and others to Consolidated Products Company, Inc. by deed dated May 7, 1926, and recorded in Deed Book G-74 page 440, distant therein Northwesterly measured along the said North-easterly line of said tract of land six hundred eighty-five feet and sixty hundredths of a foot (685.60') from the Northwesterly line of Doremus Avenue, said point being also in the dividing line between lands now or formerly Abigail Baldwin on the north and lands now or formerly Consolidated Products Company on the south, and from thence running:

1. along said northwesterly line of lands of Consolidated Products Company, North 57 degrees 53 minutes West, 216.37 feet to a point; thence
2. still along the same, North 57 degrees 30 minutes West, 113.64 feet to a point of curvature; thence

*R. J. L.*

Lots 120, 122, 126, Block 5060 (continued)

3. on a curve to the left with a radius of 581.19 feet, an arc length of 219.10 feet to a point; thence

4. along the line of lands now or formerly Central Railroad of New Jersey, North 79 degrees 06 minutes West, 162.48 feet to a point in the easterly line of Avenue P; thence

5. along said easterly line of Avenue P, North 32 degrees 37 minutes East, 100.37 feet to a point; thence

6. still along the same, North 23 degrees 35 minutes East, 264.31 feet to a point; thence

7. along the northeasterly line of lands now or formerly David Cook, South 69 degrees 26 minutes East, 46.82 feet to a point; thence

8. still along the same, South 54 degrees 31 minutes East, 69.12 feet to a point; thence

9. south 23 degrees 55 minutes West, 22.33 feet to a point in the dividing line between lands now or formerly Millering on the south and lands now or formerly Joseph Condit on the north; thence

10. along said dividing line, South 55 degrees 04 minutes East, 637.60 feet to a point in the dividing line between lands now or formerly Condit on the north, lands now or formerly Baldwin on southeast and lands now or formerly Millering on the northwest; thence

11. along the dividing line between lands now or formerly Baldwin on the east and lands now or formerly Millering on the west, South 37 degrees 40 minutes West, 217.50 feet to a point which is the point or place of beginning.

BEING commonly known and designated as No. 306-336 Avenue P,

SEC-4600 PAGE 81

*S. J. H. B.*

Lots 120, 122, 126, Block 5060 (continued)

City of Newark, New Jersey, and being Lots 120, 122, and 126 in Block 5060, Tax Maps of the City of Newark, and Parcel 1A in Block 5060, Project N.J. R-121, Industrial River Urban Renewal Project, Maps of the Housing Authority of the City of Newark.

BEING part of the same premises conveyed to D & J Trucking & Waste Co., Inc., a New Jersey corporation, by Sun Chemical Corporation by deed dated April 9, 1974 and recorded April 17, 1974 in the Register's Office of the County of Essex in Book 4472 of Deeds for said County at Page 673.

*G. J. H.*

Together with all and singular the buildings, improvements, ways, woods, waters, watercourses, rights, liberties, privileges, hereditaments and appurtenances to the same belonging or in anywise appertaining; and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and of every part and parcel thereof; And also all the estate, right, title, interest, use, possession, property, claim and demand whatsoever, of the Grantor both in law and in equity, of, in and to the premises herein described, and every part and parcel thereof, with the appurtenances. To Have and to Hold all and singular, the premises herein described, together with the appurtenances, unto the Grantees and to Grantees' proper use and benefit forever.

And the Grantor covenants to and with the Grantees that at the time of the sealing and delivery of these presents, Grantor is lawfully seized of an absolute and indefeasible estate of inheritance in fee simple, of and in all and singular the premises hereby conveyed, with all the buildings thereon and the privileges and appurtenances thereto belonging; And has good right, full power and absolute authority to grant, sell and convey the same to the Grantees in the manner and form hereof. And that the Grantees shall and may at all times hereafter, peaceably and quietly enter upon and have, hold, use and occupy, possess and enjoy the premises hereby conveyed and every part and parcel thereof, with all the buildings thereon and the privileges and appurtenances thereto belonging, to and for Grantees' use and benefit without any let, suit, crierion, interruption, claim or demand whatsoever, of the Grantor or of any other persons whomsoever lawfully claiming or to claim the same. And that the said lands and premises are now free and clear, acquitted and discharged of and from all limitations, grants, estates, mortgages, judgments, executions, taxes, assessments, encumbrances and liens of any nature and kind whatsoever, except as herein set forth. And that the Grantor and every person whomsoever, lawfully or equitably deriving any estate, right, title or interest through, from or for the Grantor, in trust or otherwise, in or to the premises described herein, the buildings thereon and the privileges and appurtenances thereto belonging, shall and will, at all times hereafter upon the reasonable request and at the expense of the Grantees, do or execute or cause to be done or executed, all such further acts, deeds and things for the better, more perfectly and absolutely conveying and securing the said lands and premises hereby conveyed, as by the Grantees or Grantees' counsel in law, shall be reasonably advised or required. And also, that the Grantor by these presents does and will forever warrant and defend the lands and premises described herein and every part and parcel thereof, with all the buildings thereon and the privileges and appurtenances thereto belonging, unto the Grantees, against the Grantor and against all persons lawfully claiming or to claim the same.

In all references herein to any parties, persons, entities or corporations, the use of any particular gender or the plural or singular number is intended to include the appropriate gender or number as the text of the within instrument may require.

Wherever in this instrument any party shall be designated or referred to by name or general reference, such designation is intended to and shall have the same effect as if the words "heirs, executors, administrators, personal or legal representatives, successors and assigns" had been inserted after each and every such designation.

In Witness Whereof, the Grantor has caused these presents to be signed and attested by its proper corporate officers and its corporate seal to be hereunto affixed the day and year first above written.

D & J TRUCKING & WASTE CO., INC.

ATTEST:

JOSEPH ATTANASI,

Secretary

By Dominick J. Attanasi  
DOMINICK J. ATTANASI, President

State of New Jersey, County of ESSEX  
that on March 17, 1978, before me, the subscriber, an Attorney at  
Law of New Jersey  
personally appeared JOSEPH ATTANASI

ss.: Be It Remembered,  
before me, the subscriber, an Attorney at

who, being by me duly sworn on his oath, deposes and makes proof to my satisfaction, that  
he is the Secretary of D & J TRUCKING & WASTE CO., INC.  
the Corporation named in the within Instrument;  
that DOMINICK J. ATTANASI  
is the President of said Corporation; that the execution, as well as the making of this Instrument, has  
been duly authorized by a proper resolution of the Board of Directors of the said Corporation; that  
deponent well knows the corporate seal of said Corporation; and that the seal affixed to said  
Instrument is the proper corporate seal and was thereto affixed and said Instrument signed and  
delivered by said President as and for the voluntary act and deed of said Corpora-  
tion, in presence of deponent, who thereupon subscribed his name thereto as attesting witness,  
and that the full and actual consideration paid or to be paid for the transfer of title to realty evidenced  
by the within deed, as such consideration is defined in P.L. 1968, c. 49, Sec. 1(c), is \$225,000.00

Sworn to and subscribed before me,  
the date aforesaid.

AARON DINES  
An Attorney at Law of New Jersey

JOSEPH ATTANASI

Prepared by: FERDINAND J. BIUNNO, ESQ.

**REFERENCE NO. 5**



CONTROL NO:

02-9005-05

DATE:

7/18/90

TIME:

1015

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Tax surveyor

OF: City of Newark

Tax assessment surveyor's  
office

PHONE:

(201) 733-6569

AND:

Dorothy Ponte

NUS1

DISCUSSION:

Requested information concerning previous owners of the  
D. and J. Trucking Site, Block 5060, lot 149.

Deed cards available from the tax surveyor's office indicate  
the property belonged to Lincoln Farm Products Corp., prior to  
1961. Deed cards for subsequent years (1961-1978) are either  
misplaced or lost.

ACTION ITEMS:

Go to City of Newark, Hall of Records, 130 1st Floor,  
465 Martin Luther King Blvd., Newark to research site  
property ownership prior to purchase by the Newark Housing  
Authority.

**REFERENCE NO. 6**

CONTROL NO:

02-9005-05

DATE:

5/22/90

TIME:

1030

## DISTRIBUTION:

D. and J. Trucking

BETWEEN: Paul Butler

Bill Stachle - consultant for  
the City of NewarkOF: Dept. of Engineering  
City of Newark

Dresdner and Robin Assoc.

PHONE: 201 733-4300

(201) 432-9800

AND:

Dorothy Ponte

(NUS)

## DISCUSSION:

A three-way conversation was held between Paul, Bill and Dorothy. The following information was obtained: 310 Avenue P is bordered to the north by a site presently under investigation by the City of Newark. The site is referred to as the Police Academy Site. Prior to construction of a Police Academy Training building, an assessment of the site was conducted. No groundwater testing was done, however several surficial test pits were dug and analyzed. Results from the site analysis indicate the property is contaminated by a broad range of contaminants. The contamination at the site cannot be associated with one particular waste stream. However, there is a possibility that some of the contamination at the Police Academy site resulted from illegal dumping practices by D. and J. Trucking before a berm was erected by the Police in order to deter further illegal dumping on the property. Bill has conducted an extensive historical review of the area along Avenue P. The

## ACTION ITEMS:

current lot number of 310-328 Avenue P is listed as block 5060 lot 149 at the City of Newark tax office. Lot 149 was previously known as lots 120, 122, 126 and 128. Later these lots became incorporated into a larger lot by the Newark Housing Authority. Lot 150, to the north of the D. and J. Trucking site was formerly known as lots 132 and 138. According to Bill, the D. and J. Trucking site was a very active junk yard up until

CONTROL NO:

02-4005-05

DATE:

5/22/90

TIME:

1030

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

OF:

PHONE:

( )

AND:

(NUS)

DISCUSSION: cont'd

about one year ago. The site is mostly barren, and devoid of vegetation. A storm drainage ditch is located near the eastern edge of the property line. A creek also appears to run along the southwestern edge of the site according to Bill. D. and J. Trucking had a twelve year contract with paint manufacturers in the area, specifically Benjamin Moore and Sherwin Williams. A lot of material derived from these paint manufacturers was dumped on the site, as well as neighboring lots along Avenue P. The trucking company apparently did not respect property lines. According to Bill's historical review of the area, lot 150 to the north of the D. and J. Trucking site shows a likelihood of being one of the cleaner sites along Avenue P. This is due in part to the berm which was erected to separate the Police Academy range from surrounding properties. Bill provided data from typical samples taken from his site - the Police Academy Site. He cautioned that one should be aware that the soil forming the berm came in part from

ACTION ITEMS:

surface soil scrapped off his site (possibly up to a foot), most of the soil forming the berm, however, was derived from other sources. He stated that results of soil samples taken of the berm indicated they were not as contaminated as superficial soil samples taken from lot 150. Site wide concentration ranges for the following priority pollutants at lot 150 were as follows: Base/neutrals ranged from 4-78ppm, 38 ppm average; lead ranged from 31-590 ppm, 427 ppm average;

CONTROL NO:

02-9005-05

DATE:

5/22/90

TIME:

1030

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

OF:

PHONE:

( )

AND:

(NUS)

DISCUSSION: cont'd. :

chromium ranged from 11-205 ppm, 107 ppm average; mercury ranged from .2 - 9.3 ppm, 4.4 ppm average; and volatile organics ranged from .0 - 35 ppm. The purpose of this data was to demonstrate to the NJDEP that the site was typical of the general area along Avenue P. Soil samples were sent to an outside lab for analysis, Enserco - Boston office, due to the presence of dioxin. Other priority pollutant results were as follows: priority pollutant pesticides ranged from .23 - 53 ppm, PCBs from non-detectable to 35 ppm and TCE from non-detectable to 71 ppb. Bill suggested that Bob Caladre (201) 344-4611, a contractor for the Newark Housing Authority, 309-465 Avenue P site, may be able to provide additional information relating to contamination in the area. He also suggested I contact Ed Rys for further information concerning 310 Avenue P. Also, the City of Newark should have a comprehensive file on the D. and J. Trucking site, located at 309-465 Avenue P.

ACTION ITEMS:

One specific surficial sample, TP-60, had the following contaminant concentrations:

petroleum hydrocarbons	total 960 ppm
base/neutral organics	39 ppm
lead	526 ppm
chromium	136 ppm
mercury	7 ppm
volatile organics	.03 ppm
pesticides	53 ppm
dioxin	.21 ppt

319

Bill will be sending a copy of their report in the next couple weeks.

**REFERENCE NO. 7**



CONTROL NO:

02-9005-05

DATE:

5/11/90

TIME:

11:17

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Tax assessor

OF: City of Newark

Tax assessment office

PHONE:

(201) 733-6566

AND:

Dorothy Ponte

NUS

DISCUSSION:

Property located on block 5060, lot 149 is currently owned by the Newark Housing Authority. The address for this lot listed at the tax assessors office is 310-336 Avenue P.

ACTION ITEMS:

**REFERENCE NO. 8**

CONTROL NO:

02-9005-05

DATE:

5/31/90

TIME:

4 pm  $\equiv$  16:00

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Tony Massi

OF: City of Newark

Tax assessment surveyor's  
office

PHONE:

(201) 733-6569

AND:

Dorothy Ponte

NUS1

DISCUSSION:

Address listed at 309-465 Avenue P. pertains to Block 5030.

Present owners and addresses, and relevant lot numbers are as follows:

309-327 Avenue P. lots #3 and #4 combined into 1 lot #3 PFister Urban Renewal

309-337 Avenue P lot #6 PFister Urban Renewal

339-355 Avenue P lot #136 PFister Urban Renewal

357-405 Avenue P lot #14 Newark Housing Authority

407-439 Avenue P lot #131 Newark Economic Development Center

441-459 Avenue P lot #132 Synfax Urban Renewal Corp.

461-549 Avenue P lot #133 Newark Housing Authority

All the above lots front Avenue P.

ACTION ITEMS:

**REFERENCE NO. 9**

CONTROL NO:

02-9005-05

DATE:

6/18/90

TIME:

1620

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

George Chranewycz

OF: Newark Housing

Authority

Redevelopment Department

PHONE:

(201) 430-2276

AND:

Dorothy Ponte

NUS

DISCUSSION:

Mr. Chranewycz returned my call (6/18/90, 1020) to inform me that he is unable to allow access to 310 Avenue P for a sampling site inspection by NUS due to the fact he is waiting for a copy of the EPA-NUS "contract, to secure information under the Freedom of Information Act." He mentioned that earlier this month he had spoken to Mr. Ted Rivera of NY EPA, from the address cited in Paul Bauer's letter dated May 22, 1990. Ted referred Mr. Chranewycz to the procurement office in Washington. He spoke with a Horraine Middleton who informed him about Superfund. He has received no confirmation to date from EPA concerning our authority to perform an inspection of the site.

When I asked him who was presently operating at the site, as the property is presently being used as a staging area for mulch, he informed me that the Newark Housing Authority has granted no permission to store mulch on the site. He also stated he would

ACTION ITEMS:

replace the lock presently used by whoever has access to the property with one belonging to the Newark Housing Authority (NHA). He also mentioned that the NHA is currently pending purchase of the site to an unnamed buyer.

**REFERENCE NO. 10**



NUS CORPORATION

TELECON NOTE

## CONTROL NO:

02-9005-05

## DATE:

07/17/90

## TIME:

1415

## DISTRIBUTION:

D. and J. Trucking

## BETWEEN:

Tony Peterpaul

OF: AFA Pellet Co., Inc  
514 Doremus Ave.  
Newark, New Jersey

## PHONE:

(201) 589-8336

## AND:

Dorothy Ponte

(NUS)

## DISCUSSION:

I called Mr. Peterpaul to determine if AFA Pellet Co., Inc (AFA) was operating at 310 Avenue P, Newark. Tony requested how I came to knowledge of AFA operations at the site, and I told him how a passing individual mentioned his company's name. The conversation quickly became a discussion of the site's past history.

According to Tony, the City of Newark Housing Authority purchased the property approximately 15 years ago from Sun Chemical Corporation. This previous owner allegedly operated a dye manufacturing business at the site. Tony mentioned that to his knowledge, the Facility's underground storage tanks were not removed when the building was demolished. These tanks possibly contained dye from the manufacturing process. After this industry was dismantled, the site operated for several years as a junkyard, and was also utilized for the repeated, unpermitted disposal of various wastes.

## ACTION ITEMS:

After the Newark Housing Authority (NHA) purchased the property, the site was leased to various tenants. In 1979, AFA signed a contract with the previous administration of the NHA with the intent of redeveloping the property in order to place a building on the site. The original contract was signed before the Environmental Cleanup Responsibility Act (ECRA) became law in 1983. Conditions set forth in the contract negotiated between AFA and NHA granted

CONTROL NO:

02-9005-05

DATE:

07/17/90

TIME:

1415

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

OF:

PHONE:

( )

AND:

(NUS)

DISCUSSION:

AFA Pallet Co., Inc. the legal right to operate at the site as the designated redevelopers of the parcel. During this time, AFA also entered into negotiations with NHA in order to have a tenant removed from the site for the purpose of facilitating redevelopment of the parcel. Shortly thereafter, ECRA became law. Perhaps due to NHA's interpretation of this law, a change in <sup>NHA</sup> policy resulted with the effect of slowing down AFA's redevelopment phase of the property according to Tony. The NHA also made alterations to the parcel without prior approval from AFA, too. A specific example given by Tony was that of the installation of a catch basin along the property's southeastern border by the NHA without the approval of AFA.

Subsequent to this, a new administration came into power at the NHA. This present administration (NHA) does not acknowledge the previous arrangement terms of the contract

ACTION ITEMS:

signed between AFA and the former NHA administration. According to Tony, AFA is the "legal and rightful developers of the parcel." Under the previous agreement the company was to deduct the price of cleanup from the purchase price of the property. AFA is presently undergoing negotiations with the present NHA administration to either proceed with the cleanup of the property <sup>for</sup> their subsequent use, or charge the NHA for the

CONTROL NO:	DATE:	TIME:
02-9005-05	07/17/90	1415
DISTRIBUTION:		
Dand J. Trucking		
BETWEEN:	OF:	PHONE:
		( )
AND:		
(NUS)		
DISCUSSION:		
<p>cost of cleaning up and redeveloping the parcel.</p> <p>Tony also described the site to me as it appeared when his company first commenced redevelopment of the property. Lots of tires and junked auto and truck bodies were on site. Tony does not recall seeing any drums or large paint containers on site, even though I mentioned aerial photographs of the site indicate their presence around the late 1970s. The junked auto bodies were scrapped and ground up into reusable metal. Other debris, mostly remnants of AFA's clean-up activities, were pushed to the property's perimeter. Wood and wood containers stored on site, as well as the 3 to 4 inch thick <del>bl</del>wood planks from truck bodies were also ground up to form mulch.</p> <p>According to Tony, a major aspect of AFA operations at the site involved taking in truck bodies, scraping the metal, and grinding up the remaining wood planks. When I mentioned to Mr. Peterpaul that a September 1989 aerial photograph of the site indicated it had been regraded before any mulch activity had commenced at the property, he insisted that any mulch encountered at the site had been derived solely from the bottom wood planks of truck bodies. He also denied that the property had been regraded. Tony also recalled that from previous site plans of the parcel, an underground riparian stream traverses the property.</p>		
ACTION ITEMS:		

REFERENCE NO. 11

CONTROL NO:

02-9005-05

DATE:

5/15/90

TIME:

12:00 p.m.

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Anthony Debarros

OF: Principal Engineer  
Hydraulics  
City of Newark Water Dept.

PHONE:

(201) 256-4965

AND:

Dorothy Ponte

NUS1

DISCUSSION:

The City of Newark is serviced by two water suppliers which receive water from watershed reservoirs located in Passaic, Morris and Sussex Counties, New Jersey. The north section of Newark is serviced by the North Jersey District Water Supply, commonly referred to as the Wanaguan Water Supply. Areas serviced by the North Jersey District Water Supply are: part of the City of Newark, Paterson, Montclair, Bayonne, Cedar Grove, and parts of Wayne, New Jersey. Wayne is also serviced by water from the Pequannock watershed and well water. The Jersey City Water Department receives its potable water supply from Boonton and Split Rock Reservoirs, located in Morris County. The Jersey City Water Department services Jersey City, Lyndhurst and Harrison. Tony referred me to Mr. Robert Lofink, Jersey City Water Department (201) 547-4414 or 4598 for further information.

ACTION ITEMS:

concerning the Jersey City Water Department.

Tony mentioned <sup>offhand</sup> that he was aware of only one business in the area using groundwater as a potable water supply ... Biaz's Restaurant. Other wells in the City of Newark utilize groundwater for industrial purposes, specifically cooling.

Action: Call Biaz's Restaurant

**REFERENCE NO. 12**



CONTROL NO:

02-9005-05

DATE:

5/17/90

TIME:

1520

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Larry Biase

OF: Owner of

Biase's Restaurant

PHONE:

(201) 483-3980

AND:

Dorothy Ponte

NUS

DISCUSSION:

A private well in the City of Newark is located at Biase's Restaurant, 451 Bloomfield Avenue, Newark (between 8<sup>th</sup> and 9<sup>th</sup> streets). The depth of the well is approximately 170 feet according to Mr. Biase. The restaurant employs between 25 and 30 people, and has a seating capacity of about 600 people. Because the well water contains too much calcium for use as a hot water supply for the restaurant's dishwasher, Biase's Restaurant utilizes the North Jersey District Water Supply for this purpose. The well water is used as a drinking water source and for other cold water uses. The well is tested annually by the City of Newark.

ACTION ITEMS:

**REFERENCE NO. 13**

CONTROL NO:

02-9005-05

DATE:

5/23/90

TIME:

1510

DISTRIBUTION:

D. and J. Trucking

BETWEEN:

Anthony Debarros

OF: Principal Engineer

Hydraulics

Newark Water Supply

PHONE:

(201) 256-4965

AND:

Dorothy Ponte

NUS

DISCUSSION:

Discussed contingency plan, should an emergency occur.

Newark Water Supply has capabilities of obtaining water from Passaic and Jersey City Water Departments. In their contingency plan, water can be obtained from lakes in the Branch Brook Park and Weequahic Parks in an emergency situation too. Only very limited quantities could be obtained from city wells. None of these wells are tapped into the water distribution system.

Anthony will be mailing out well data information for the City of Newark to NUS FIT 2 office in Edison this week.

ACTION ITEMS:

**REFERENCE NO. 14**

Alvin L. Zach, P.E.; L.S. Director  
Department of Engineering

Division of Water/Sewer Utility  
Daniel Berardinelli, P.E., Manager  
1294 McBride Avenue  
Little Falls, New Jersey 07424  
(201) 256-4965.

May 23, 1990

Ms. Dorothy Ponte  
NUS Corp. Suite 1103  
1090 King Georges Post Road  
Edison, N.J. 08837

RE: PRIVATE WELLS IN THE  
CITY OF NEWARK

Dear Ms. Ponte:

As per our recent telephone conversation, please find enclosed information on the above captioned wells.

<u>Premise</u>	<u>Occupant</u>	<u>Tel. No. (201)</u>
37-39 Backus St.	Northern Feather Works	344-2262
250 Badger Ave.	Rubel Corp.	824-2905
451 Bloomfield Ave.	Biase's Restaurant	483-3980
93-105 Chestnut St.	Morris Machinery	344-1977
274 1/2 Heller Parkway	Foamy Car Wash	759-9691
792-850 Highland Ave.	Tiffany Co.	HU3-0140
30-44 Passaic St.	Napp-Greco	482-3500
353-355 5th St.	Hooton Chocolate	485-5385
495 N. 13th St.	Columbus Hospital	485-3400

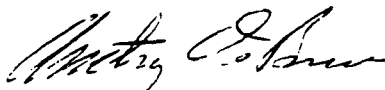
Information on the above 9 wells indicate the wells are potable, however, ownership or occupancy may have changed since the "in use" date of 1981.

The following information comes from records also noted as "in use as of 1981" but these wells are either not potable or have not been tested.

<u>Premises</u>	<u>Occupant</u>	<u>Tel. No. (201)</u>
324 Astor St.	Linden Packing	243-1930
117 Blanchard St.	Fairmount Chemical	344-5790
37 Empire St.	Crown Plastics	248-8383
408 Frelinghuysen Ave.	Circle Rubber	824-5576
55 Manufacturers Pl.	Ronson Metals	589-1380
131 Market St.	Macy's	565-5244
158 Mt. Olivet Ave.	Penick Corp.	242-4001
95 Orange St.	Westinghouse	465-2466
240 Park Ave.	Park Ave. Car Wash	483-3883
2-20 E. Peddie St.	Jeryco Plastics Co.	243-3410
200 Pulaski St.	Chem-Fleur	589-4266
62 Verona Ave.	Seton Leather	485-4800
2 Heller Parkway	Branch Brook Park (Essex County Park Comm.)	482-6400

Additional information on private wells can be obtained from Mr. Al Crenshaw or Mr. Joe Zaro at our Distribution Headquarters, 239 Central Ave., Newark or by telephoning (201) 733-5360.

Very truly yours,



Anthony DeBarros,  
Principal Engineer Hydraulics

ADB/bm



**REFERENCE NO. 15**

TO: File

DATE: 08/03/90

FROM: Dorothy Ponte

COPIES:

SUBJECT: Possible sources of contamination at the D. and J. Trucking Site.

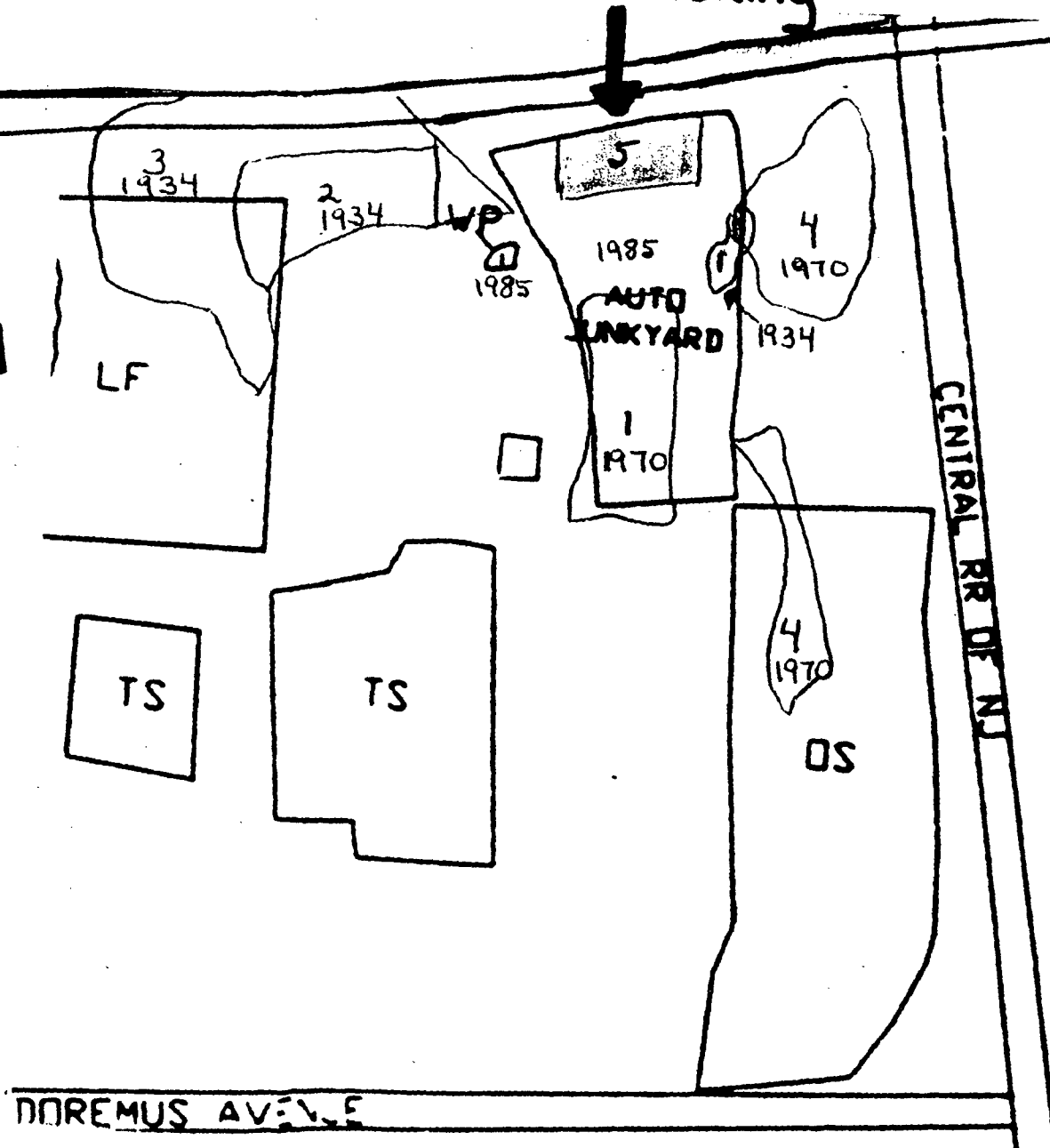
REFERENCE:

An historical survey of possible sources of contamination within and adjacent to the proposed Right-of-Way for the New Jersey Turnpike Widening Project was submitted by Louis Berger and Associates, Inc. to the New Jersey Turnpike Authority in a preliminary site investigation. I acquired several south maps, eastside of the proposed Right-of-Way, and compiled relevant data concerning the D. and J. Trucking Site into one map spanning the years 1934 to 1985. This map identifies possible sources of contamination at the site and in the surrounding region.

# Possible sources of contamination.

D and J. Trucking

- AVENUE P
- Legend**
- 1 Waste Disposal
  - 2 Sludge
  - 3 Lagoon
  - 4 Drum Storage
  - 5 Industry
  - TS Tank Storage
  - OS Open Storage
  - LF Land fill



# **Preliminary Site Investigations: New Jersey Turnpike 1985 - 90 Widening from Passaic River to Milepost 105**

**Historical Survey of Possible Sources of Contamination  
within and adjacent to the Proposed Turnpike Right-Of-Way**

Submitted to:

**New Jersey Turnpike Authority**

New Brunswick, New Jersey.

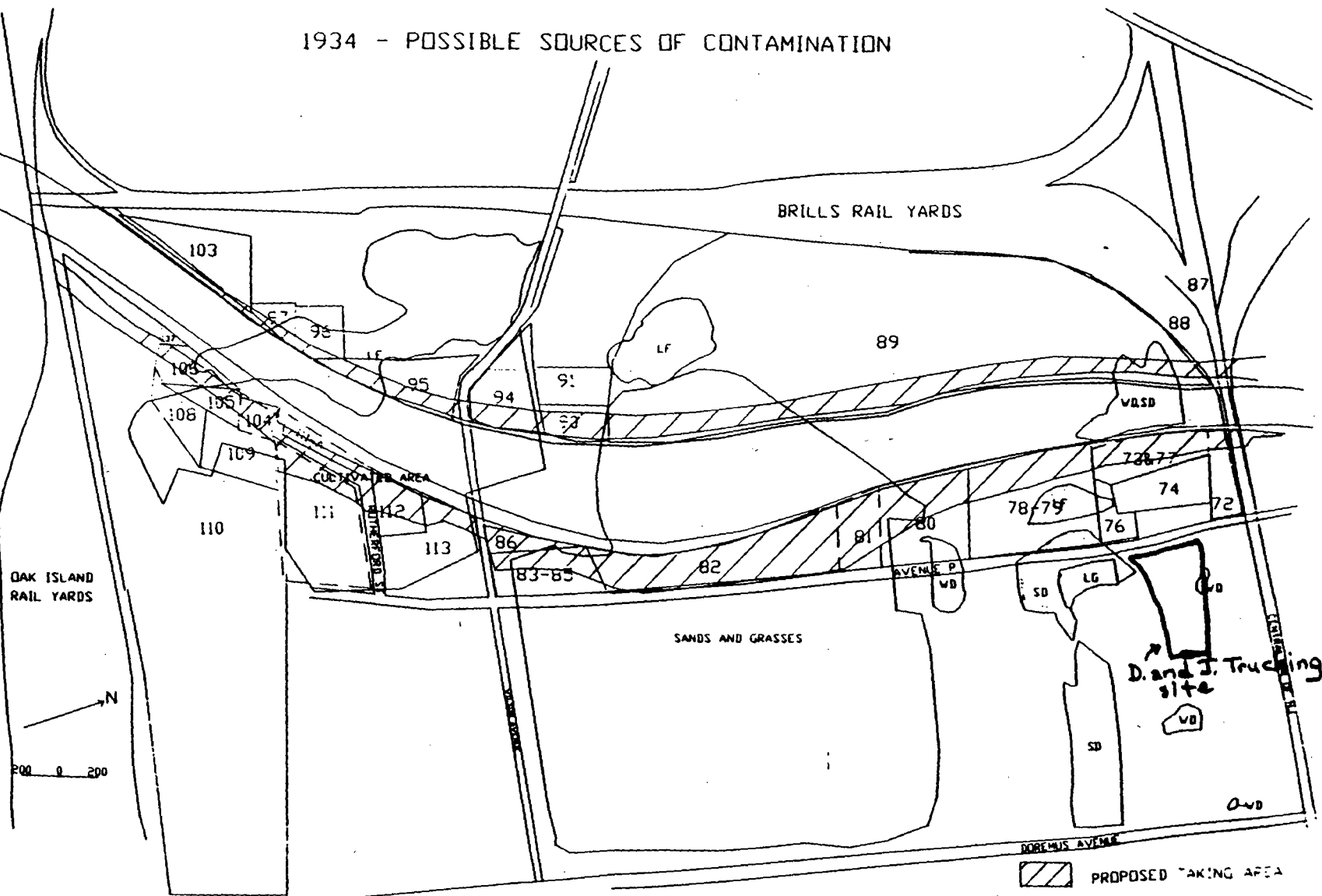
Submitted by:

**Louis Berger & Associates, Inc.**  
East Orange, New Jersey

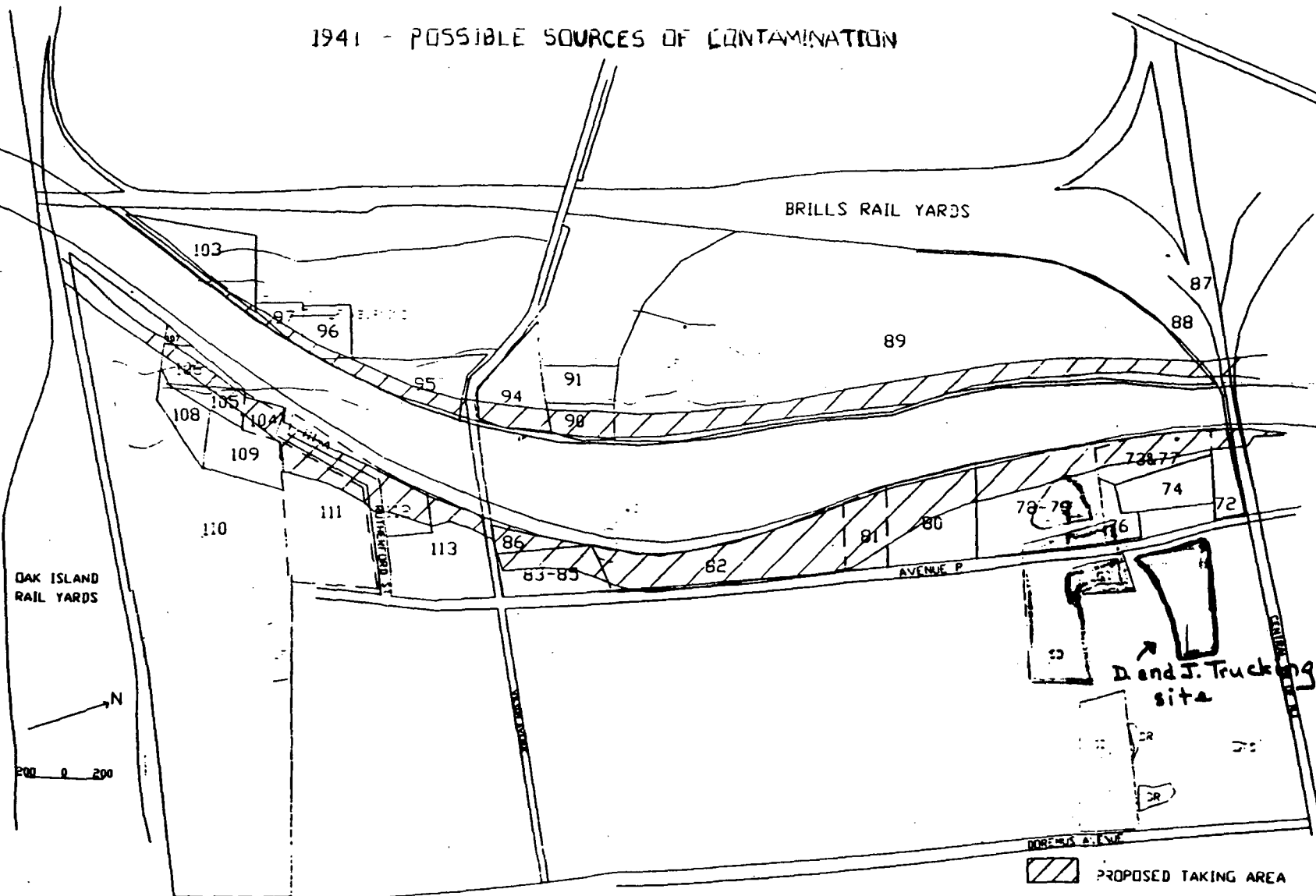
**December 1986**

- Legend -

# 1934 - POSSIBLE SOURCES OF CONTAMINATION

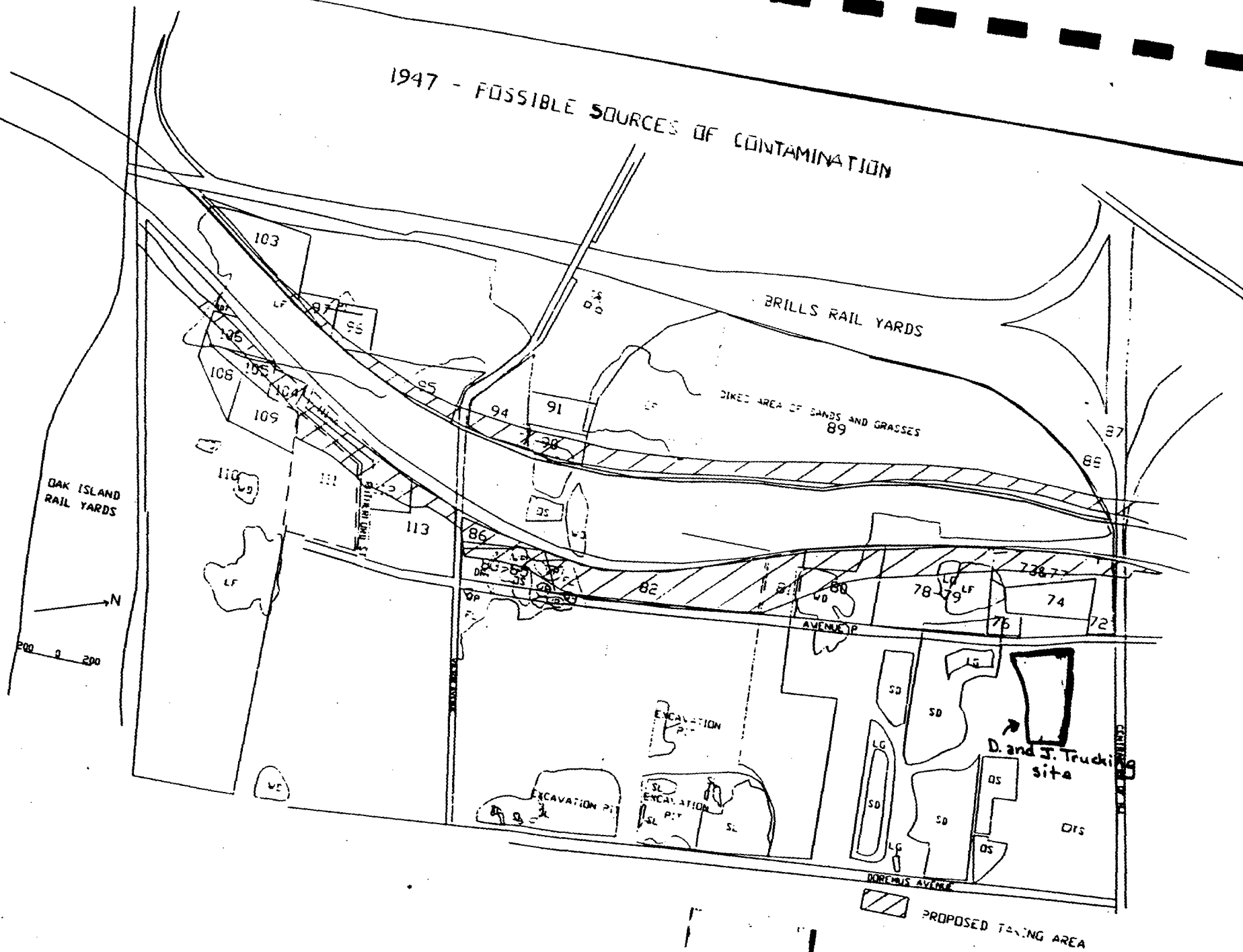


# 1941 - POSSIBLE SOURCES OF CONTAMINATION

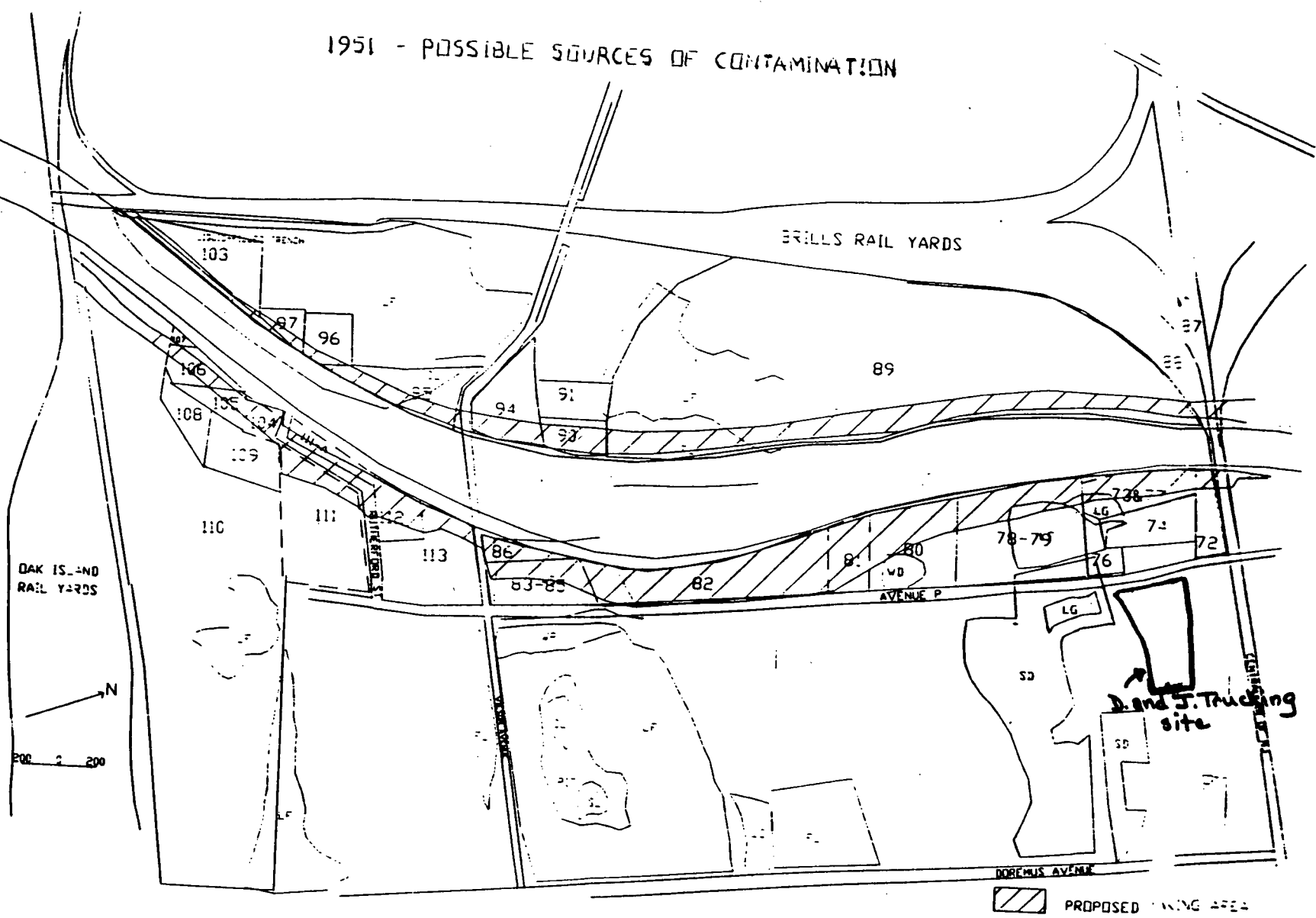




1947 - POSSIBLE SOURCES OF CONTAMINATION



# 1951 - POSSIBLE SOURCES OF CONTAMINATION



1959 - POSSIBLE SOURCES OF CONTAMINATION

Map showing various areas and features:

- BRILLS RAIL YARDS
- GRADED AREA
- 103
- 108
- 109
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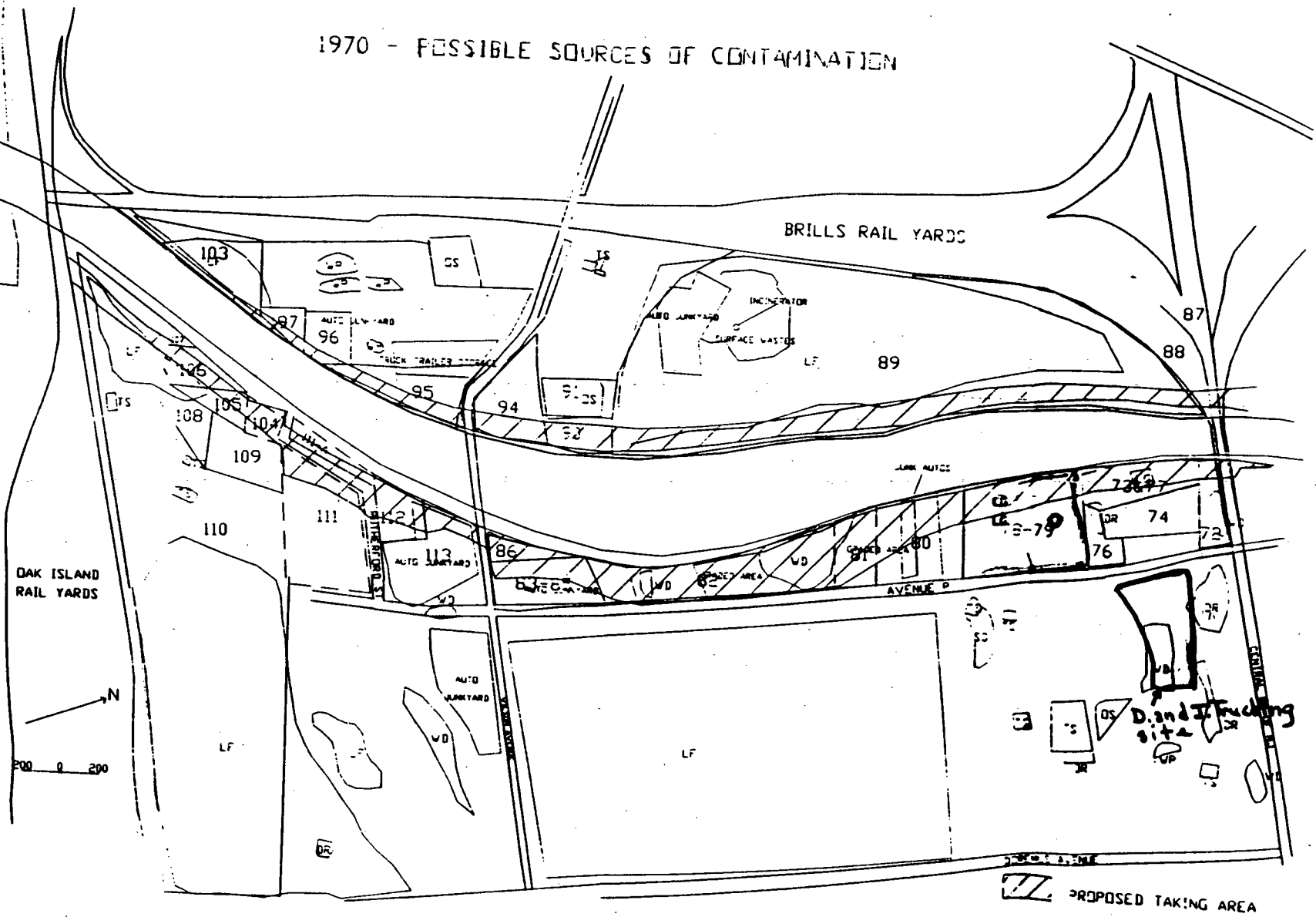
Other labels include:

- OS
- LF
- TS
- IS
- UP
- AVENUE
- PIT
- LG
- DR
- DP
- D. and J. Trucking site
- PROPOSED TAKING AREA

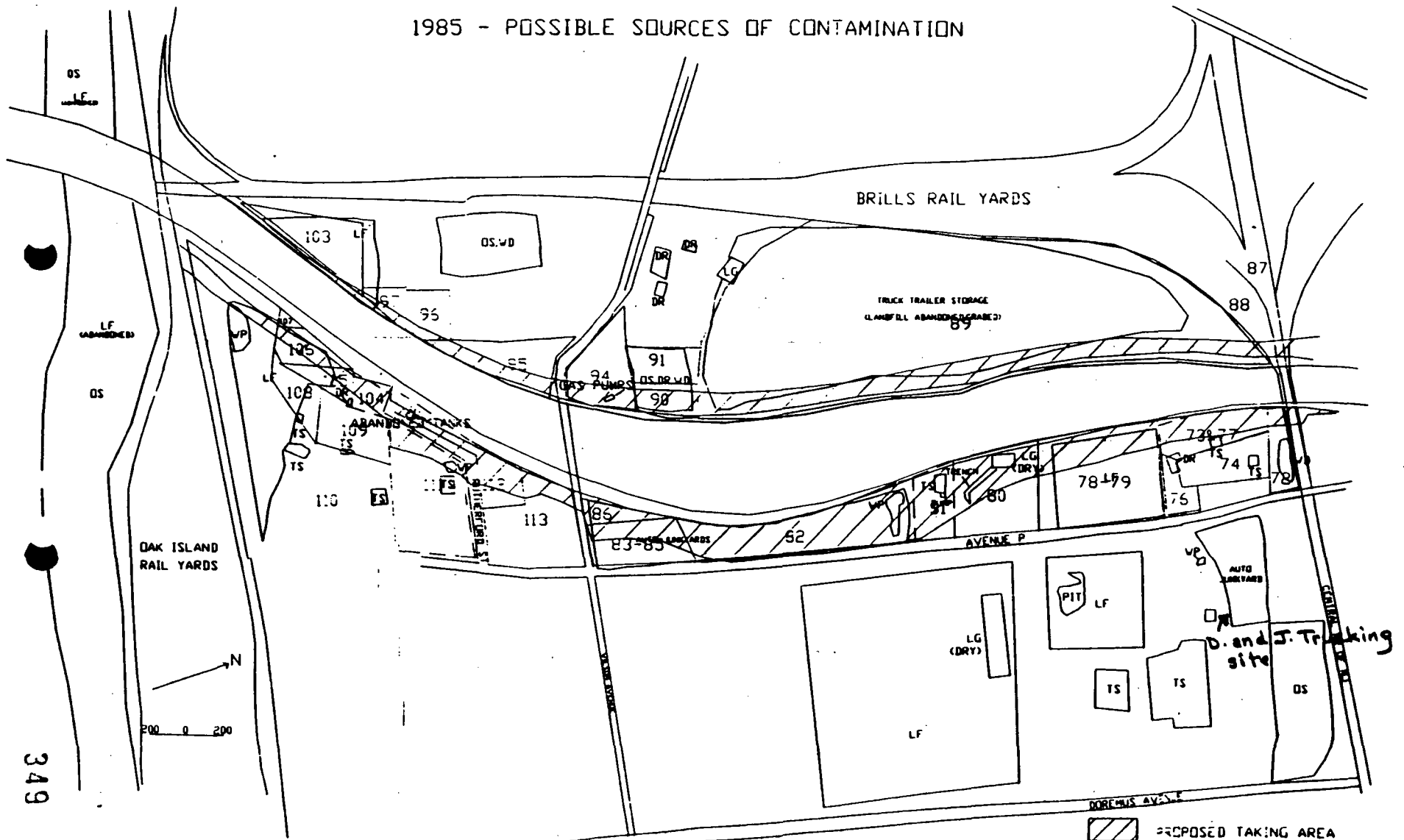
Scale: 200 0 200

North arrow pointing up.

# 1970 - POSSIBLE SOURCES OF CONTAMINATION



# 1985 - POSSIBLE SOURCES OF CONTAMINATION



\* SITE 94

Property: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).

ROW: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).

\* SITE 95

Property: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).

ROW: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).

\* SITE 96

Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959). Waste Disposal-(1970).

ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

\* SITE 97

Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

\* SITE 103

Property: Landfill-(1940,1947,1951,1959,1970,1985).

ROW: Landfill-(1940,1947,1951,1959,1970,1985).

D. South Map - East Side of Turnpike

\* SITE 72

Property: Waste Disposal-(1970,1985).

\* SITES 73 & 77

Property: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959,1970; 1985: Pfister Chemical/Alliance Color & Chemical). Lagoon-(1951,1970). Landfill-(1959). Tank Storage-(1985). Drum Storage-(1985).

ROW: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959). Lagoon-(1951,1970). Landfill-(1959).



\* SITES 78-79

Property: Industrial Activity-

(1934,1940,1947,1951,1959,1970,1985). Landfill-

(1934,1940,1947,1951,1959,1970,1985). Sludge-(1940). Lagoon-(1947,1970).

ROW: Landfill-(1940,1947,1951,1959,1970,1985). Lagoon-(1947,1970).

\* SITE 80

Property: Industrial Activity-(1934,1940; 1970: Junkyards; 1985:

White Rose Meats(low risk)). Waste Disposal-(1934,1947,1951).

Landfill-(1959,1970). Lagoon-(1985).

ROW: Industrial Activity-(1970: Junkyards). Waste Disposal-(1947,1951). Landfill-(1959,1970). Lagoon-(1985).

\* SITE 81

Property: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).

ROW: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).

\* SITES 82 & 83-85

Property: Industrial Activity-(1934,1940,1947,1951; 1970,1985:

Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-

(1947,1959,1970). Drum Storage-(1947). Open Storage-(1947). Fill-(1947).

ROW: Industrial Activity-(1934,1940,1947,1951; 1970,1985:

Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-(1947,1959,1970). Drum Storage-(1947). Fill-(1947).

\* SITE 86

Property: Industrial Activity-(1934,1940,1947,1951,1959;

1970,1985: Junkyards). Open Storage-(1959).

ROW: Industrial Activity-(1934,1940,1947,1951,1959; 1970,1985: Junkyards). Open Storage-(1959).

\* SITE 113

Property: Industrial Activity-(1959,1970: Junkyards; 1985).

ROW: Industrial Activity-(1959,1970: Junkyards; 1985).

\* SITE 112

Property: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight (low risk)).

ROW: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight (low risk)).

\* SITES 111 & 109

Property: Industrial Activity-(1934-1950: Beckwith Chandler Paints; 1950-?: Devoe & Reynolds; 1951,1959,1970; 1985: ADCO Chemical). Tank Storage-(1959,1985). Waste Disposal-(1985).

TABLE 4

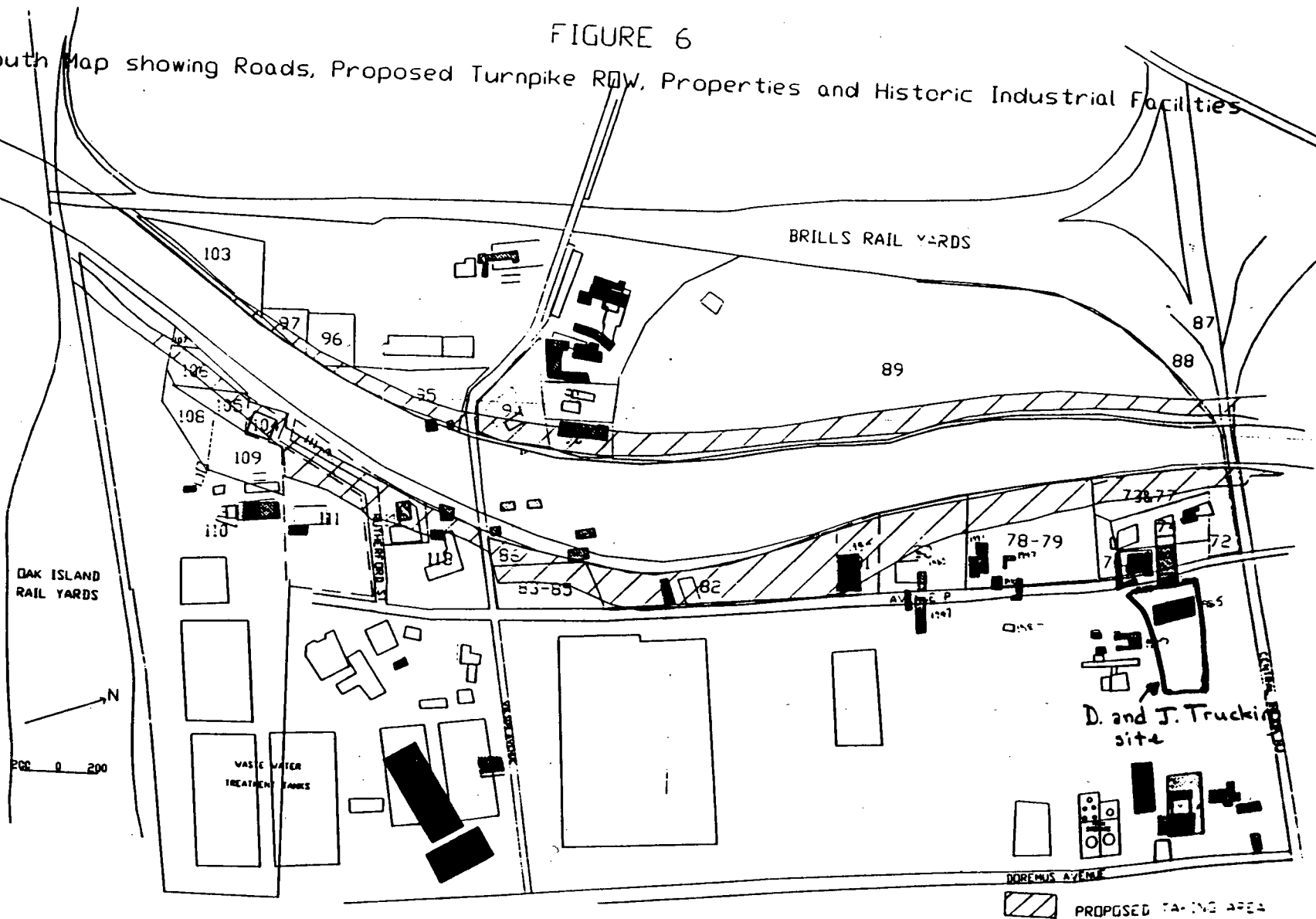
## HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (SOUTH MAP/EASTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
72	Conrail	-	-	-	-	-	WD	WD	
73	Pfister Chemical/Alliance	IA	IA	IA	IA, LG	IA, LF	IA, LG	IA, TS, DR	Mertz Rendering Plant 1934
77	Alliance Color & Chemical								
78-79	Newark Housing Authority	IA, LF	IA, LF, SD	IA, LF, LG	IA, LF	IA, LF	IA, LF, LG	IA, LF	
80	Newark Economic Development White Rose Meats	IA, WD	IA	WD	WD	LF	IA, LF	IA, LG	
81	Synfax Urban Renewal Corp.	-	-	-	-	LF	LF, WD	TS	
82	Newark Housing Author./ Junkyard	IA	IA, WD	IA, LF, DR, OS, FL, WD	IA, WD	LF	IA, WD, LF	IA, WD	
83-85	Federal Storage Warehouse/ Junkyards								
86	Stephanie Klena/Diner	IA	IA	IA	IA	IA, OS	IA	IA	Junkyards
111	Passaic Valley Sewerage Comm.	-	-	-	-	IA	IA	IA	
112	Jet Urban Renewal Corp./ Circle Air Freight	-	-	-	-	IA	-	IA	
111 109	Ridge Equities/ARCO Chem.	IA	IA	IA	IA	IA, TS	IA	IA, TS, WD	Beckwith Chandler (Mfg. Paints) 1934-50 Devco & Reynolds 1950-
104	Newark Housing Authority/ Monoplast Chemical Corp.	-	-	-	-	IA	IA	IA	
105	Passaic Valley Sewerage Comm.	-	-	-	-	-	LF	LF, DR	
106	City of Newark	LF	LF	LF	-	-	LF	LF	
107	Passaic Valley Sewerage Comm.	-	-	LF	-	-	-	-	

## LEGEND

C - Coal Storage	LS - Liquid Storage
DR - Drum Storage	OS - Open Storage
FI - FILL	SD - Sludge
IA - Industrial Activity	SL - Standing Liquid
LF - Landfill	TS - Tank Storage
LG - Lagoon	WD - Waste Disposal

FIGURE 6  
South Map showing Roads, Proposed Turnpike ROW, Properties and Historic Industrial Facilities



[illegible]

Historic Landfills

BRILLS RAIL YARDS

DAK ISLAND  
RAIL YARDS

D. and J. Trucking  
site

Armed extent of Landfill

And last year of observed Act.

PROPOSED TAKING AREA

**REFERENCE NO. 16**

# Newark

Kenneth A. Gibson  
Mayor

## Department of Engineering

920 Broad Street  
Newark, New Jersey 07102  
201 733-8523

Alvin L. Zach, P.E.: L.S.  
Director

January 9, 1978

Carmine Perrapata, Executive Director  
Passaic Valley Sewerage Commissioners  
600 Wilson Avenue  
Newark, New Jersey 07105

Dear Mr. Perrapata;

~~On December 15, 1977 the Newark Police Department observed the promiscuous dumping of chemical wastes in a pit adjacent to a branch of Plum Creek located at D & J Trucking and Waste Co., 310 Ave. P, Newark. Two suspects were apprehended for violation of N.J.S.A. 14:13A-12, not possessing a P.U.C. Certificate of Public Convenience and Necessity. Immediately following these arrests, the Newark Police contacted our office and requested that we send a representative to the site to sample the dumped chemical wastes. A representative from our office immediately responded and collected several samples from the pit and the adjacent branch of Plum Creek. The samples were then delivered to Mr. Goldberg of the P.V.S.C. for analysis. The results of the P.V.S.C. analysis showed the samples to be of a hazardous and flammable nature. The above referenced property is a barren wasteland devoid of vegetation, the substrate contains physical evidence from years of chemical waste dumping. Since this site is adjacent to Plum Creek, we believe the leachate and surface run off will be a future hazard to the abutting surface waters and persons utilizing the neighboring areas.~~

As seen in the above paragraph, the City of Newark is most concerned with the long term pollution of the above noted parcel, property with hazardous polluting materials. As previously mentioned, your laboratory analyzed samples taken from this property and from the adjacent Plum Creek. Mr. Frank J. Cupo, Superintendant of River Inspection Department, has recently informed me, however, that despite the fact that the materials are polluting a branch of Plum Creek, PVSC will take no part in abating this grave problem.

PVSC's enabling legislations, specifically delineates that the PVSC is responsible for controlling polluting matter "discharged directly or indirectly, into the waters of the Passaic River... or into the waters of any of the tributaries of said river..."




It is a concern of my office that PVSC act to require the removal of said pollutants in order to avoid future environmental problems.

I am most disappointed with the response received from Mr. Cupo that PVSC will not follow-up in requiring the removal of the above noted pollutants. Your assistance in assuring an expeditious abatement of this problem, will be most appreciated.

Thanking you in advance for your anticipated cooperation, I remain

Sincerely yours,



Arvin L. Zach, P.E.  
Director of Engineering

ALZ/jf

cc: Seymour Lubetkin

**REFERENCE NO. 17**

YOU ARE MAKING FOUR COPIES. A BALL POINT PEN  
PRESS HARD, WRITE ON A HARD SURFACE

46-1311-10  
NEWARK, N.J. 4 PC w/POC  
DETAILED INSTRUCTIONS  
ON BACK OF FORM

# POLICE DEPARTMENT

# INCIDENT REPORT

NEWARK, N.J.

FILL OUT COMPLETE REPORT WHEN LISTED IN CLASSIFICATION LIST AND REPORT GUIDE AS 802 (NO ASTERISK).  
DO NOT FILL OUT SHADED PORTION WHEN LISTED 802\* (WITH ASTERISK).

1. VICTIM OR COMPLAINANT'S NAME P/O Wayne Smith P/OB Zariczny		2. TELEPHONE NO. 733-1100		17. STATUTE OR ORDINANCE		18. MCR# 317		19. DISTRICT NO. 76493		20. CEN. COMPLY. NO.	
3. RESIDENTIAL NUMBER EAST District		4. STREET		5. CITY		6. STATE		7. ZIP CODE		8. OCCUPATION	
9. SOBER		10. HAD BEEN DRINKING		11. INTOR-ICATED		12. YES		13. NO		14. INJURY	
15. CAN VICT. IDENT. OFFENDER		16. YES		17. NO		18. LOCATION 310 Ave P		19. TIME OF OCCURRENCE (H OR SEV.) 0820		20. WAS FORCE USED?	
21. PERSON REPORTING CRIME Officers Unit 317		22. TELEPHONE NO. 33-1100		23. TYPE OF PREMISES OR PROPERTY ATTACHED Lot Newark Housing Property		24. MEANS OF ATTACK TRUCK, DRUMS Liquid		25. MEANS OF OPERAND N/A		26. WAS A WEAPON USED?	
27. TYPE OF ATTACK Hole in ground		28. OBJECT OF ATTACK disposal of chemicals		29. VEHICLE INVOLVED IN CRIME YEAR MAKE LIC. NUMBER COLOR BODY TYPE SERIAL NUMBER 64 Ford XDZ 45W TRUCK T7KU501236		30. NAME OF SUSPECT Ralph Smith		31. RESIDENCE 68 Myrtle Ave Irvin-ton		32. STRANGER TO STRANGER CO ME	
33. ADDITIONAL INFORMATION (DO NOT REPEAT INFORMATION LISTED IN NUMBERED BLOCKS)		34. OTHER OFFICERS AT SCENE		35. OTHER REPORTS SUBMITTED		36. OTHER REPORTS SUBMITTED		37. OTHER REPORTS SUBMITTED		38. OTHER REPORTS SUBMITTED	
39. PERSONS ARRESTED Dominick J. Attanasio		40. CENT. ARR. NO. 23915		41. NAME OF DETECTIVE NOTIFIED Ralph Smith		42. SIGNATURE OF REPORTING OFFICER		43. SIGNATURE OF ARREST OFFICER		44. SIGNATURE OF ARREST OFFICER	
45. SIGNATURE OF ARREST OFFICER		46. SIGNATURE OF ARREST OFFICER		47. SIGNATURE OF ARREST OFFICER		48. SIGNATURE OF ARREST OFFICER		49. SIGNATURE OF ARREST OFFICER		50. SIGNATURE OF ARREST OFFICER	

HARD

Use black reproducing ball point.  
You are making 3 copies.

## POLICE DEPARTMENT

## CONTINUATION REPORT

NEWARK, N. J.

SPECIFIC OFFENSE		DISP COMPL T. NO.	CENTRAL COMPLAINT NO 76493
STATUTE OR ORDINANCE N.J.S. REV. ORD.	LOCATION OF OFFENSE	DATE OF OCCURRENCE	

a track that end at the edge of a stream. This stream was polluted with an unknown substance whose source came from the bank at the end of the tire tracks.

There was also various amounts of empty 55 gallon drums laying around the area.

Mr. Walter Janicek of the Newark Department of Engineering responded and took samples from the hole and stream.

A Police photographer responded and took photos of the area.

Mr. Dominick A. Attanasio of 432 Colonial Ave Union N.J. was arrested. He was advised of his rights at the scene and allowed to call his lawyer.

The truck used to dump the material was a 1964 Ford N.E. Reg XD25W. This is registered to D.J. Trucking, Oil and Waste Co. 310 Ave P. Phsi

300

AMENDED PROPERTY VALUATION	A CURRENCY	B JEWELRY	C FURS	D CLOTHING	E LOCAL AUTO	F MISCELLANEOUS	G TOTALS
NAME: _____ SIGNATURE OF OFFICER SUBMITTING REPORT: _____ COMMAND: _____							
STATUS OF OFFENSE: <input type="checkbox"/> DISCONTINUED <input type="checkbox"/> CLEANED BY ARREST <input type="checkbox"/> NOT CLEANED <input type="checkbox"/> EXCEPTIONALLY CLEANED				STATUS OF CASE: <input type="checkbox"/> PENDING ACTIVE <input type="checkbox"/> PENDING INACTIVE <input type="checkbox"/> DISPOSED			
CLASSIFIED BY ARREST: <input type="checkbox"/> ARREST <input type="checkbox"/> ARREST <input type="checkbox"/> ARREST <input type="checkbox"/> ARREST				CLASSIFICATION: _____			
DATE & LOCATION AND APPROVED BY: _____				TAKEN BY: _____			

**REFERENCE NO. 18**



*For  
Corcoran*

State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE ADMINISTRATION  
TRENTON, 08625

BEATRICE S. TYLUTKI  
Director

*Feb*  
December 14, 1978

Mr. Dominick Attanasi  
D. & J Trucking and Waste Co., Inc.  
387 Avenue F  
Newark, NJ 07102

Dear Mr. Attanasi:

Enclosed please find an Administrative Order revoking your authority to collect and haul solid waste in the State of New Jersey. Continued operation will be considered a violation of N.J.S.A. 13:1E-5 and N.J.S.A. 13:1E-12, subjecting you to penalties of up to \$3,000 per offense.

Any further communication concerning this matter should be made to William Stohler, Deputy Attorney General, 36 West State Street, Trenton, New Jersey 08625.

Very truly yours,

*Beatrice S. Tylutki*  
Beatrice S. Tylutki  
Director  
Solid Waste Administration

bcc: Steven Gray, DAG  
Joseph Coronato, DAG  
James P. Lordi  
Bruce Schwartz, Div. of Water Resources  
Tom Salagaj, PUC  
Henry A. Jatczak  
Ronald Corcoran  
Ronald Buchanan  
Charles Gingrich  
Central File





State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE ADMINISTRATION  
TRENTON, 08625

BEATRICE S. TYLUTKI  
DIRECTOR

IN THE MATTER OF D & J TRUCKING)  
AND WASTE CO., INC. VIOLATION )  
OF STATUTES AND REGULATIONS OF )  
THE DEPARTMENT OF ENVIRONMENTAL )  
PROTECTION )

ADMINISTRATIVE ORDER

REVOCATION OF REGISTRATION

WHEREAS, D & J Trucking and Waste Co., Inc. (D & J) has a New Jersey Solid Waste Administration Registration for the collection and haulage of solid waste in the State of New Jersey, specifically, No. 2683; and

WHEREAS, investigations by this Department on April 2, 1977, and August 1, 1977, disclosed that D & J engaged in the disposal of solid waste on a property known as 310 Avenue "P", Newark, New Jersey, in violation of N.J.S.A. 13:1E-5, N.J.S.A. 13:1E-12, N.J.A.C. 7:26-2.2.1, N.J.A.C. 7:26-2.2.2 and N.J.A.C. 7:26-3.4.2; and

WHEREAS, on December 15, 1977, Dominick J. Attanasi, president of D & J, and Ralph J. Smith, driver of the truck, were apprehended by the Newark police while in the act of dumping chemical waste in a pit on the property known as 310 Avenue "P", Newark, New Jersey; and

WHEREAS, the property known as 310 Avenue "P", Newark, New Jersey reveals evidence of chemical dumping having occurred on the site for some time, during which D & J was in open and notorious possession of said property; and

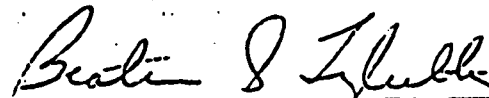
WHEREAS, as a result of these facts, there have occurred willful and negligent illegal discharges in violation of N.J.S.A. 58:10A-6, N.J.S.A. 58:10-23.11c and N.J.S.A. 23:5-28; and

WHEREAS, on June 2, 1975, a Departmental Order was issued to D & J Trucking and Waste Co., Inc. requiring cessation of disposal operations at the site involved herein; and

WHEREAS, a Notice of Prosecution was issued to D & J Trucking and Waste Co., Inc. on August 30, 1977, wherein penalties were assessed against D & J for additional illegal disposal activities on the site involved herein.

NOW, THEREFORE:

1. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that its registration, No. 2683, to operate in the State of New Jersey is REVOKED: and
2. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that any continued collection or haulage of solid, liquid or chemical waste in the State of New Jersey will be considered a violation of N.J.S.A. 13:1E-1 et seq., subjecting D & J to a maximum penalty of \$3,000 per violation.
3. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that an administrative hearing may be had in the aforementioned matter, and that the New Jersey Department of Environmental Protection will provide such a hearing upon written request received no later than fifteen (15) days from the date of this Order. Said request shall specify (a) wherein the Department's action aggrieves D & J, (b) which findings of fact are challenged; and (c) which conclusions of law (including those not articulated) are challenged. Time and place of the hearing will be designated by the Department of Environmental Protection.



Beatrice S. Tylutki, Director  
Solid Waste Administration.

**FEB**  
December 14, 1978

Date \_\_\_\_\_

**REFERENCE NO. 19**



State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE ADMINISTRATION  
TRENTON. 08625

BEATRICE S. TYLUTKI  
DIRECTOR

March 14, 1978

Mr. Mark Ippolito  
Sherwin-Williams Co.  
P.O. Box 717  
Newark, NJ 07101

Dear Mr. Ippolito:

Attached for your information is a copy of an Administrative Order revoking the registration of D&J Trucking Company to collect and haul solid waste in the State of New Jersey. In addition, Rahway Trucking is not registered with the Solid Waste Administration to collect or haul solid waste within the State. Any waste collection or haulage by either of these companies is in violation of N.J.A.C. 7:26-1 et seq. and may result in penalties to both generator and hauler of the waste.

Should you have any questions concerning this matter, please call me at (609) 292-9877.

Sincerely,

Michael Rosenberg  
Assistant Environmental Engineer

MR:hjg

Attach.

**REFERENCE NO. 20**

# **Preliminary Site Investigations: New Jersey Turnpike 1985 - 90 Widening from Passaic River to Milepost 105**

**Historical Survey of Possible Sources of Contamination  
within and adjacent to the Proposed Turnpike Right-Of-Way**

Submitted to:

**New Jersey Turnpike Authority**

New Brunswick, New Jersey.

Submitted by:

**Louis Berger & Associates, Inc.**  
East Orange, New Jersey

**December 1986**

- Legend -

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Company of New Jersey (est. 1869) in 1915 and the Communipaw Central Land Company as of 1905. Private land owners apparently of this and/or nearby land parcels also included John F. Morton, Peter A. Bothner Jr., and James Flockhard. Premises were conveyed to Lewis New York Terminals for two months by two deeds in 1926.

Industrial activities were also associated with the Avenue P site for the first time by a deed which identified Lacquer Specialties as owners of the site in 1926. Amalgamated Dye and Chemical Company also appeared at the site in a 1927 survey map.

Generally speaking, the records available during this time frame are generally incomplete and it is not always clear whether the site was leased or owned by the various parties identified or whether the various parties were actively engaged in on-site activities.

### 3.2 Middle "Industrial" Phase

From the deed records, it appears that Lacquer Specialties remained owner of record of the site until 1946, when that property as well as other adjacent tracts were transferred to Lasp Realty. There is some indication in the deed book that the Lasp property was subsequently leased to Reilly Tar and Chemical Company.

Martin Laboratories, Inc. appears in the deed book to have been associated with the property potentially through 1951 when the property was transferred to Plum Point Realty.

Another industry potentially associated in the deed book with the property is the Sun Chemical Company; however the deed book does not indicate when they acquired the land. Survey records from the firm of Borrie MacDonald and Watson place the Americal Tallow Company on the site in 1948. The same firm has surveyed that area at five distinct times; and by 1957 a company representative described the site as "vacant lots, a dumpsite".

### 3.3 Late "Deterioration" Phase

Three surveys made by the Borrie, MacDonald and Watson firm between the years 1960 and 1973 described the site as a paint dump at which was located several sheds filled with paint and associated products (varnish, remover, lacquer, etc.). These discarded materials apparently bore labels from Sherman Williams and Benjamin Moore. The surveyor specifically noted between 500 and 600 cases of pint cans of paint which appeared to be a bad colour run. Quantities of gas and oil wastes were noted as well. The same surveyor in the 1960's described the general vicinity of the dump as desolate (Avenue P was a dirt road) and indicated that there were several junk yards nearby which "people didn't own". The surveyor also placed Alliance Colour and Chemical Company adjacent to the Avenue P site in 1960. By 1972, the surveyor described the site as "loaded with debris and junk" including thousands of paint cans. Photographs are available of the site at this stage.

Apparently, it was during the 1970's that much of the property in this area was transferred to the New Jersey Turnpike Authority or to the Newark Renewal and Housing Authority. However, two tracts of Lot 15 were transferred to Ashland Oil and Refining Company and D and J Trucking and Waste Company was granted Lots 6 & 9 including parts of Lots 10, 11, 14 and 15 according to the deed book. Some of the Housing Authority's property was transferred to Pfister Urban Renewal Company in 1982.

→ During the 1970's there were also several accounts of illegal dumping in the area of this site. An account by the Chief Environmental Specialist of the Newark Department of Engineering describes an illegal paint dumping operation on an adjacent property involving D and J Trucking and Waste Company in 1977. D and J Trucking and Waste Company had a disposal contract with Sherman Williams and Benjamin Moore for twelve years. The department was also cognizant of illegal dumping along Plum Point Creek (1977-1979) by Chemical Control Company (see Appendix 4). A limited photographic record of the site for this time period is also available from the Newark Department of Engineering and the New Jersey Turnpike Authority (see Appendix 5).

In 1980, the NJDEP issued landfill disruption permits, due to the potential hazards involved with use of this land by Schnool Poultry Company and the Synfax Company. Apparently there has been much concern with potential methane gas accumulation at this site on the part of the Engineering Department. Operations of the Synfax Company were later disrupted by a fire. The Newark Fire Department and the New Jersey Department of Environmental Protection corroborate much of the information gleaned from the Newark Department of Engineering and the New Jersey Turnpike Authority during this period. The Fire Department also noted that the Newark Housing Authority applied for a certificate of occupancy, but it was denied.

Of note, there is also an extensive aerial photographic record available for the years 1961 to 1982. A general overview of twelve available photographs is as follows:

→ 1961 Two sets of stereo pairs were reviewed for 1961. Both depicted a full scale industrial operation present on the site and possibly extending onto the property which is now east of Avenue P. These two properties were encircled by what appears to be a drainage or irrigation system. Avenue P was not established at this time, however, a dirt path did exist. A more established road, parallel to Avenue P, bisected the present site. Buildings were evident in the southern portion. In the northeast section of the present day site, a structure resembling a sludge pond or tar pit is bordered by a large "sand" pile and drums and small sheds are apparent in the northwest section. The southwest section is characterized by what appears to be waste piles.

→ 1966 A blueprint of the photo from 1966 reveals an ongoing operation similar to 1961, however the "sludge pond" is no longer apparent and "Avenue P" has become more defined. Also, the aerial appears to link activities ongoing between the north portion of the site and the adjacent property.

**REFERENCE NO. 21**



DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF PARKS AND FORESTRY  
OFFICE OF NATURAL LANDS MANAGEMENT

CN-404  
TRENTON, N.J. 08625  
(609) 984-1339

October 10, 1989

John D. Rieckhoff  
NUS Corporation  
1090 King Georges Post Road  
Suite 1103  
Edison, NJ 08837

Re: Purchase Order Number 22154

Dear Mr. Rieckhoff:

Thank you for your data request regarding county lists for threatened and endangered vertebrate species. Enclosed are vertebrate lists for all the counties in the state. The fee to cover the cost of providing these lists is \$20.00. Payment should be made payable to Treasurer, State of New Jersey. Please provide a copy of this letter with your remittance. Please feel free to contact us again regarding any future data requests.

Sincerely,

A handwritten signature in cursive script, reading "Thomas F. Breden", is written over the typed name.

Thomas F. Breden  
Coordinator/Ecologist  
Natural Heritage Program

cc: JoAnn Frier-Murza  
Thomas Hampton



# NATURAL LANDS MANAGEMENT

## CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, this Office cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or location in question. The information should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Division of Coastal Resources, Bureau of Freshwater Wetlands, CN 402, Trenton, NJ 08625.

Information provided by this database may not be published without first obtaining the written permission of the Office of Natural Lands Management. In addition, the Natural Heritage Program must be credited as an information source in any publication of data.

5/18/87

NEW JERSEY NATURAL HERITAGE PROGRAM  
POTENTIAL THREATENED AND ENDANGERED VERTEBRATE SPECIES  
IN ESSEX COUNTY

AMERICAN BITTERN	FEDERAL STATUS:	COUNTY
<u>BOTAURUS LENTIGINOSUS</u>	STATE STATUS: LT	OCCURRENCE: ?

HABITAT COMMENTS

Fresh water bogs, swamps, wet fields, cattail and bulrush marshes, brackish and saltwater marshes and meadows.

BARRED OWL	FEDERAL STATUS:	COUNTY
<u>STRIX VARIA</u>	STATE STATUS: LT	OCCURRENCE: ?

HABITAT COMMENTS

Dense woodland and forest (conif. or hardwood), swamps, wooded river valleys, cabbage palm-live oak hammocks, especially where bordering streams, marshes, and meadows.

BLUE-SPOTTED SALAMANDER	FEDERAL STATUS:	COUNTY
<u>AMBYSTOMA LATERALE</u>	STATE STATUS: LE	OCCURRENCE: Y

HABITAT COMMENTS

Sometimes in overgrown pastures. Sometimes hibernates under rocks or logs near breeding pools. Often found in areas with sandy soil. Adults usually under objects or underground.

BOG TURTLE	FEDERAL STATUS: C2	COUNTY
<u>CLEMMYS MUHLENBERGII</u>	STATE STATUS: LE	OCCURRENCE: ?

HABITAT COMMENTS

Slow, shallow rivulets of sphagnum bogs, swamps, and marshy meadows; sea level to 1200 m in Appalachians. Commonly basks on tussocks in morning in spring and early summer. Hibernates in subterreanean rivulet or seepage area.

COOPER'S HAWK	FEDERAL STATUS:	COUNTY
<u>ACCIPITER COOPERII</u>	STATE STATUS: LE	OCCURRENCE: Y

HABITAT COMMENTS

Primarily mature forest, either broadleaf or coniferous, mostly the former; also open woodland and forest edge.

GREAT BLUE HERON	FEDERAL STATUS:	COUNTY
<u>ARDEA HERODIAS</u>	STATE STATUS: LT	OCCURRENCE: N*

HABITAT COMMENTS

Freshwater and brackish marshes, along lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows.

5/18/87

LEAST TERN  
STERNA ANTILLARUM

FEDERAL STATUS:  
STATE STATUS: LE

COUNTY  
OCCURRENCE: B

HABITAT COMMENTS

Seacoasts, beaches, bays, estuaries, lagoons, lakes, and rivers.

LONGTAIL SALAMANDER  
EURYCEA LONGICAUDA

FEDERAL STATUS:  
STATE STATUS: LT

COUNTY  
OCCURRENCE: ?

HABITAT COMMENTS

Streamsides, spring runs, cave mouths, forested floodplains in South. May disperse into wooded terrestrial habitats in wet weather. Hides under rocks, logs, and other debris.

NORTHERN HARRIER  
CIRCUS CYANEUS

FEDERAL STATUS:  
STATE STATUS: LE

COUNTY  
OCCURRENCE: W\*

HABITAT COMMENTS

Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts.

PIED-BILLED GREBE  
PODILYMBUS PODICEPS

FEDERAL STATUS:  
STATE STATUS: LE

COUNTY  
OCCURRENCE: ?

HABITAT COMMENTS

Lakes, ponds, sluggish streams, and marshes; in migration and in winter also in brackish bays and estuaries.

RED-SHOULDERED HAWK  
BUTEO LINEATUS

FEDERAL STATUS:  
STATE STATUS: LT

COUNTY  
OCCURRENCE: Y

HABITAT COMMENTS

Moist and riverine forest, and in e. N. Am. in wooded swamps, foraging in forest edge and open woodland.

SAVANNAH SPARROW  
PASSERCULUS SANDWICHENSIS

FEDERAL STATUS:  
STATE STATUS: LT

COUNTY  
OCCURRENCE: Y

HABITAT COMMENTS

"Open areas, especially grasslands, tundra, meadows, bogs, farmlands, grassy areas with scattered bushes, and marshes, including salt marshes in the BELDINGI and ROSTRATUS groups."

SHORT-EARED OWL  
ASIO FLAMMEUS

FEDERAL STATUS:  
STATE STATUS: LE/S

COUNTY  
OCCURRENCE: ?

HABITAT COMMENTS

Open country, including prairie, meadows, tundra, moorlands, marshes, savanna, dunes, fields, and open woodland. Roosts by day on ground or on low open perches.



5/18/87

TREMBLAY'S SALAMANDER  
AMBYSTOMA TREMBLAYI

FEDERAL STATUS:  
STATE STATUS: LE

COUNTY  
OCCURRENCE: ?

HABITAT COMMENTS

Habitat requirements similar to those exhibited by the blue-spotted salamander (AMBYSTOMA LATERALE)

UPLAND SANDPIPER  
BARTRAMIA LONGICAUDA

FEDERAL STATUS:  
STATE STATUS: LE

COUNTY  
OCCURRENCE: B

HABITAT COMMENTS

Grasslands, especially prairies, dry meadows, pastures, and (in Alaska) scattered woodlands at timberline; very rarely in migration along shores and mudflats.

WOOD TURTLE  
CLEMMYS INSCULPTA

FEDERAL STATUS:  
STATE STATUS: LT

COUNTY  
OCCURRENCE: Y

HABITAT COMMENTS

Vicinity of streams and rivers. In streams and in wooded areas and fields adjacent to streams in summer. In streams in spring and fall. Hibernates in banks or bottoms of streams in winter.

## DEFINITION OF ACRONYMS

### FEDERAL STATUS

LE=listed endangered.  
LT=listed threatened.  
PE=proposed endangered.  
PT=proposed threatened.  
C2=candidate for listing.

### STATE STATUS

LE=listed as endangered. (short-eared owl winter pop. listed as  
stable:S)  
LT=listed as threatened.

### COUNTY OCCURRENCE

Y=present year-round, breeds.  
N=present year-round, not recorded breeding.  
B=present during the summer, breeds.  
W=present during the winter.  
T=present as a transient.  
?=present status undetermined.  
\*=indicates that the county is within the species known breeding  
range.

**REFERENCE NO. 22**

# 1:250 000-scale map of Atlantic Coast Ecological Inventory

- 301 Eastern nemioc
- 302 Spirewort (S)
- 303 Spider lily (S)
- 304 Pond bush (S)
- 305 Watermilfoil (S)
- 306 Hooded pitcher plant (S)
- 307 Tree
- 308 Prickly pear cactus (S)
- 309 Trailing arbutus (S)
- 310 Eastern bumelia
- 311 Pitcher plant
- 312 Baldcypress
- 313 Redbay
- 314 Seaside alder
- 315 Box nuckleberry
- 316 Purple fringeless orchid
- 317 Pink lady's slipper
- 318 Ebony spirewort (S)
- 319 Orchids (S)
- 320 Golden club (S)
- 321 Florida beargrass
- 322 East-coast coontie
- 323 Fall-flowering ixia
- 324 Jackson-vine
- 325 Spoon-flower
- 326 Curtiss milkweed
- 327 Sea lavender
- 328 Hand fern
- 329 Needle palm
- 330 Yellow squirrel-banana
- 331 Beach creeper
- 332 Florida coontie
- 333 Four-petal pawpaw
- 334 Bird's nest spleenwort
- 335 Burrowing four-o'clock
- 336 Beach star
- 337 Silver palm
- 338 Dancing lady orchid
- 339 Tamarindillo
- 340 Fuch's bromeliad
- 341 Everglades peperomia
- 342 Buccaneer palm
- 343 Slender spleenwort
- 344 Pineand jacquemontia
- 345 Mahogany mistletoe
- 346 Florida thatch
- 347 Twisted air plant
- 348 Long's bittercress
- 349 Venus's flytrap

## INVERTEBRATES (351-400)

- 351 Monarch butterfly
- 352 Zebra butterfly

## BIRDS (401-600)

### SHOREBIRDS (401-430)

- 401 Shorebirds
- 402 Terns
- 403 Gulls
- 404 Forster's tern
- 405 Arctic tern
- 406 Least tern (S)
- 407 Roseate tern (S)
- 408 Common tern
- 409 Great black-backed gull
- 410 Herring gull
- 411 Laughing gull
- 412 Black skimmer (S)
- 413 Turnstones
- 414 Plovers
- 415 Piping plover
- 416 American oystercatcher (S)

### WADING BIRDS (431-460)

- 431 Wading birds
- 432 Herons
- 433 Egrets
- 434 Rails
- 435 Ibis
- 436 Bitterns
- 437 Great blue heron (S)
- 438 Wood ibis (S)
- 439 Anhinga
- 440 Little blue heron (S)
- 441 Yellow-crowned night heron (S)
- 442 Black-crowned night heron
- 443 Florida sandhill crane (S)
- 444 Louisiana heron (S)
- 445 Limpkin (S)
- 446 Roseate spoonbill (S)
- 447 Snowy egret (S)
- 448 Magnificent frigate-bird (S)
- 449 Reddish egret (S)
- 450 Clapper rail
- 451 King rail
- 452 Virginia rail
- 453 Sora rail

### WATERFOWL (461-500)

- 461 Waterfowl
- 462 Swans
- 463 Geese
- 464 Dabbling ducks
- 465 Diving ducks
- 466 Common eider
- 467 Harlequin duck
- 468 Wood duck
- 469 Fulvous tree duck
- 470 Loons
- 471 Grebes
- 472 Brant geese
- 473 Snow goose
- 474 Gadwall
- 475 Black duck

### RAPTORS (501-530)

- 501 Raptors
- 502 Owls



Produced by  
**U. S. FISH AND WILDLIFE  
SERVICE**  
1980

## AQUATIC ORGANISMS

Shown in BLUE: species with special status shown in RED(F) or (S) indicates species protected by Federal or State Legislation (see text)

### SYMBOL



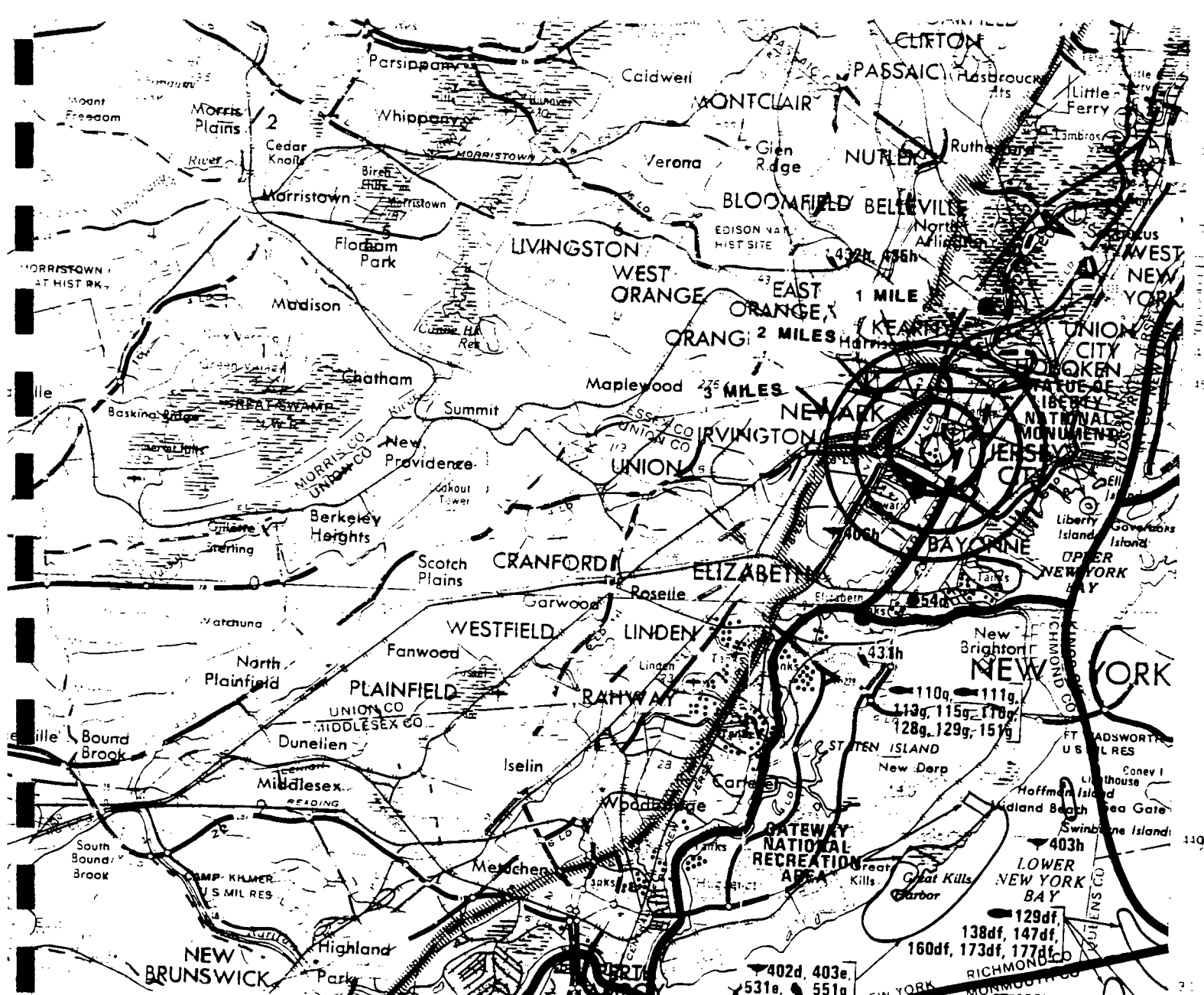
### SPECIES

#### PLANTS (1-50)

- 1 Irish moss
- 2 Rockweed

#### INVERTEBRATES (51-100)

- 51 Crabs
- 52 Mussels
- 53 Oysters
- 54 Scallops
- 55 Clams
- 56 Worms
- 57 Shrimp
- 58 American lobster
- 59 Blue crab
- 60 Eastern oyster
- 61 European oyster
- 62 Bay scallop
- 63 Deep-sea scallop
- 64 Calico scallop
- 65 Surf clam
- 66 Hard clam
- 67 Soft shell clam
- 68 Brackish-water clam
- 69 Bloodworm
- 70 Sandworm
- 71 White shrimp
- 72 Brown shrimp
- 73 Northern shrimp
- 74 Rock crab
- 75 Jonah crab
- 76 Whelk



# LEGEND

## POPULATED PLACES

- Over 500,000
- 100,000 to 500,000
- 25,000 to 100,000
- 5,000 to 25,000
- 1,000 to 5,000
- Less than 1,000

**BOSTON**  
**RICHMOND**  
**EVANSTON**

## ROADS

- Primary, all-weather, hard surface
- Secondary, all-weather, hard surface
- Light-duty, all-weather, improved surface
- Fair or dry weather, unimproved surface
- Trail
- Interchange

Route markers: Interstate, U.S., State

- Landmark: School, Church, Other
- Depth curve in feet
- Limit of danger: Reef
- Rocks: Awash
- Foreshore flat
- Intermittent or dry stream
- Marsh or swamp

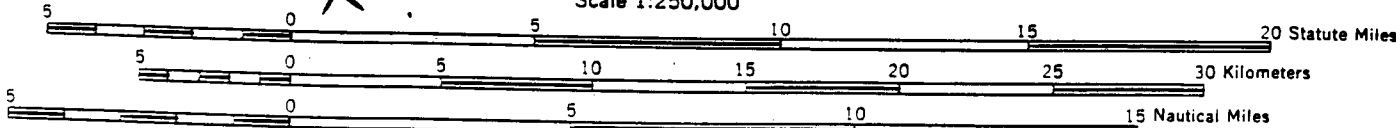
- RAILROADS: Single track, Double or Multiple
- Normal gauge
- Narrow gauge
- BOUNDARIES: International, State, County, Park or reservation, Mine
- Spot elevation in feet
- Landplane airport
- Landing area
- Seaplane airport
- Seaplane anchorage
- Power line
- Woods-brushwood

## ATEWAY NATIONAL RECREATION AREA

SANDY

- ansburg
- Hook
- East Keansburg
- Port Bay
- Atlantic Highlands
- Belford
- Fairview
- Rumson
- Fair

Scale 1:250,000



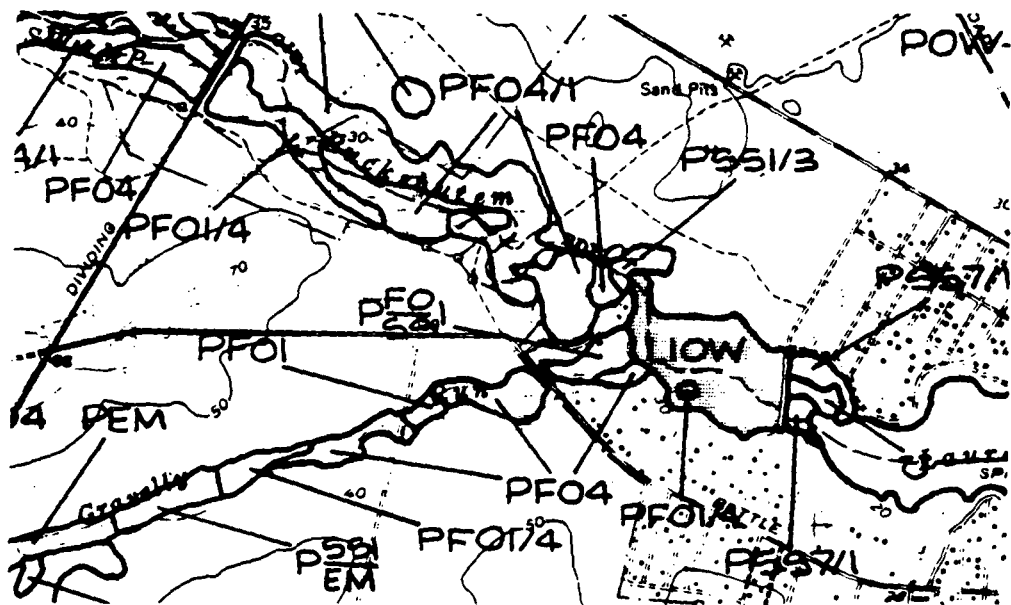
TRANSVERSE MERCATOR PROJECTION

BLACK NUMBERED LINES INDICATE THE 10,000 METER UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 18

FOR SALE BY U. S. GEOLOGICAL SURVEY BOSTON, URGENT 1962 OR DENVER, COLORADO 1962

**REFERENCE NO. 23**

# ATLAS OF NATIONAL WETLANDS INVENTORY MAPS FOR NEW JERSEY



PORTION OF DIVIDING CREEK MAP

SCALE: 1:24,000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service  
Region Five  
Habitat Resources  
One Gateway Center, Suite 700  
Newton Corner, Massachusetts



## HOW TO USE THIS ATLAS

The Atlas contains reductions of all 1:24,000 National Wetlands Inventory maps. Maps appear in alphabetical order. Map names can be located on the index map (Figure 2). Each map shows the configuration, location and type of wetlands and deepwater habitats found within a given area.

### WETLAND LEGEND

Wetland data are displayed on maps by a series of letters and numbers (alpha-numerics). Mixing of classes and subclasses are represented by a diagonal line. The more common symbols are shown below; less common symbols have been omitted for simplicity. For identifying these latter symbols, the reader should refer to an actual NWI map legend.

#### Examples of Alpha-numerics:

E2EMN6 = Estuarine (E), Intertidal(2), Emergent Wetland(EM), Regularly Flooded(N), Oligohaline(6)

E2FL = Estuarine(E), Intertidal(2), Flat(FL)

PF01 = Palustrine(P), Forested Wetland(FO), Broad-leaved Deciduous(1)

PEM/OW = Palustrine(P), Emergent Wetland/Open Water(EM/OW)

PFO/SS1 = Palustrine(P), Forested Wetland/Scrub-Shrub Wetland(FO/SS), Broad-leaved Deciduous(1)

#### SYMBOLOLOGY

##### Systems and Subsystems:

M 1	=	Marine Subtidal	R 3	=	Riverine Upper Perennial
M 2	=	Marine Intertidal	R 4	=	Riverine Intermittent
E 1	=	Estuarine Subtidal	L 1	=	Lacustrine Limnetic
E 2	=	Estuarine Intertidal	L 2	=	Lacustrine Littoral
R 1	=	Riverine Tidal	P	=	Palustrine
R 2	=	Riverine Lower Perennial	U	=	Upland

##### Classes (subclasses and modifiers designated where appropriate):

AB = Aquatic Bed

BB = Beach/Bar

EM = Emergent Wetland

EMN6 = Emergent Wetland, Regularly Flooded, Oligohaline

EMP6 = Emergent Wetland, Irregularly Flooded, Oligohaline

EMR = Emergent Wetland, Seasonally Flooded-Tidal

FL = Flat

FO1 = Forested Wetland, Broad-leaved Deciduous

FO2 = Forested Wetland, Needle-leaved Deciduous

FO4 = Forested Wetland, Needle-leaved Evergreen

OW = Open Water/Unknown Bottom

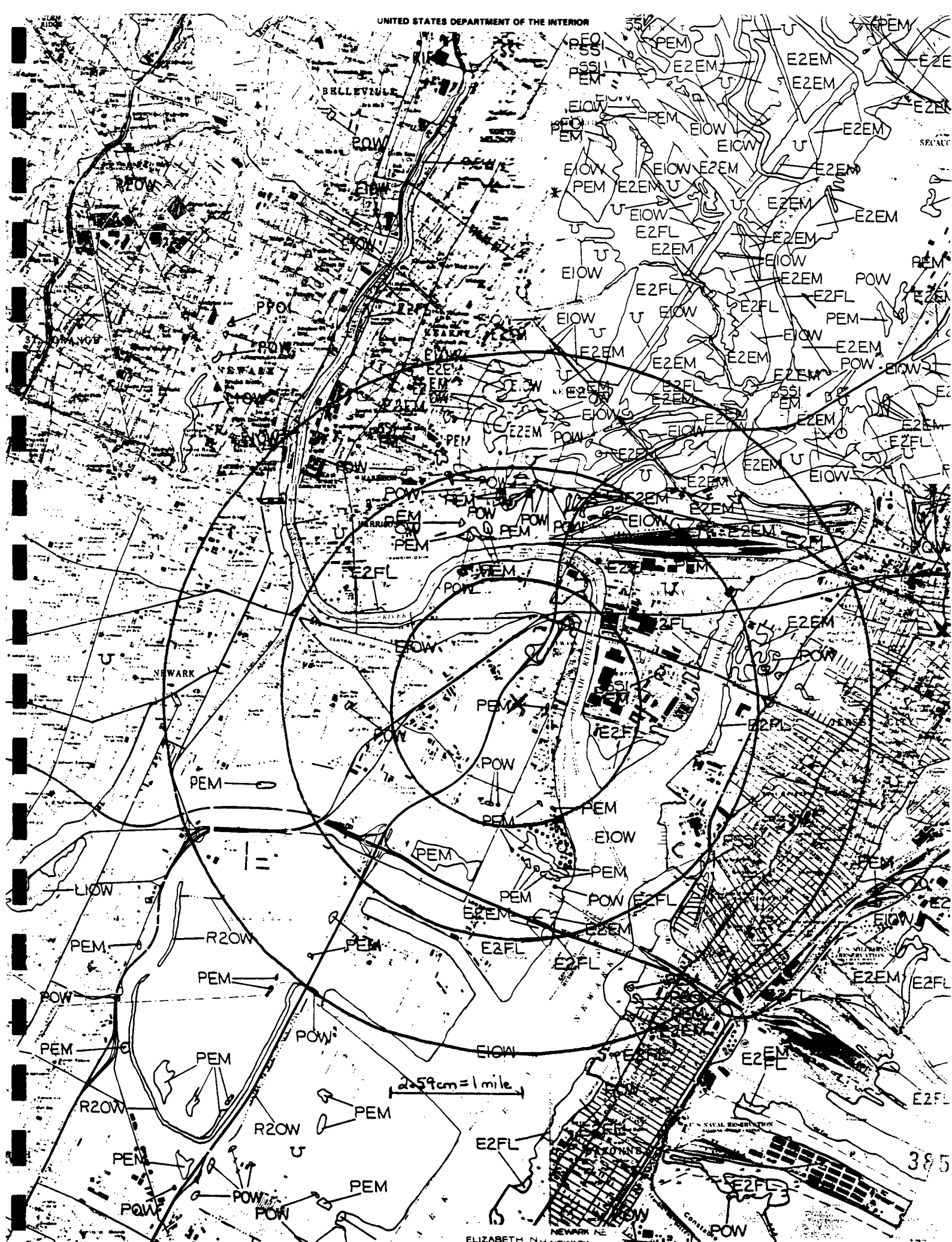
SS1 = Scrub-Shrub Wetland, Broad-leaved Deciduous

SS3 = Scrub-Shrub Wetland, Broad-leaved Evergreen

SS4 = Scrub-Shrub Wetland, Needle-leaved Evergreen

SS5 = Scrub-Shrub Wetland, Dead

SS7 = Scrub-Shrub Wetland, Evergreen



**REFERENCE NO. 24**

Determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620, or (800) 424-8872.



APPROXIMATE SCALE



**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**

**CITY OF**  
**NEWARK, NEW JERSEY**  
**ESSEX COUNTY**

**PANEL 8 OF 12**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER**  
**340189 0008 B**

**EFFECTIVE DATE:**  
**MARCH 28, 1980**



**U.S. DEPARTMENT OF HOUSING**  
**AND URBAN DEVELOPMENT**  
**FEDERAL INSURANCE ADMINISTRATION**

## KEY TO MAP

500-Year Flood Boundary ---

100-Year Flood Boundary ---

Zone Designations\* With  
Date of Identification  
e.g., 12/2/74

100-Year Flood Boundary ---

500-Year Flood Boundary ---

Base Flood Elevation Line  
With Elevation in Feet\*\*



513

Base Flood Elevation in Feet  
Where Uniform Within Zone\*\*

(EL 987)

Elevation Reference Mark

RM7 x

River Mile

• M1.5

\*\*Referenced to the National Geodetic Vertical Datum of 1929

## \*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

## NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:

MARCH 15, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:

SEPTEMBER 24, 1976



— ZONE B

**REFERENCE NO. 25**



# STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DAVID J. BARDIN, COMMISSIONER

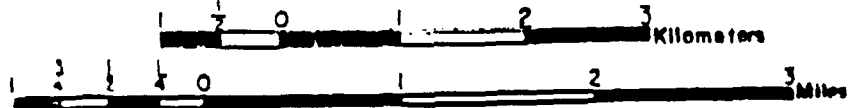
## CATION AND OWNERS OF PUBLIC SUPPLY WELLS

26-01-218 Lincolnton Park Water Company  
26-01-153 Evans Water Company  
26-01-168 Lincoln Park, Boro of  
26-01-259 Mountain View Water Company  
26-01-265 Twp. of Wayne  
26-01-268 Boro of Lincoln Park  
26-01-338 Twp. of Wayne  
26-01-339 Twp. of Wayne  
26-01-371 Twp. of Wayne  
26-01-373 Twp. of Wayne  
26-01-517 Boro of Fairfield  
26-01-541 Boro of Fairfield  
26-01-728 Twp. of Fairfield  
26-01-849 Essex Falls, Boro of  
26-01-849 Essex Falls, Boro of  
26-01-849 Essex Falls, Boro of  
26-01-854 Essex Falls, Boro of  
26-02-142 Twp. of Wayne  
26-02-234 Fair Lawn Dept. of Public Works  
26-02-334 Fair Lawn Dept. of Public Works  
26-02-335 Boro of Fair Lawn  
26-02-335 Boro of Fair Lawn  
26-02-335 Fair Lawn Dept. of Public Works  
26-02-335 Fair Lawn Dept. of Public Works  
26-02-381 Paterson Board of Education  
26-02-887 Essex Co. Park Commission  
26-03-111 Boro of Fair Lawn  
26-03-111 Boro of Fair Lawn  
26-03-112 Boro of Fair Lawn  
26-03-124 Fair Lawn Water Dept.  
26-03-127 Fair Lawn Dept. of Public Works  
26-03-127 Boro of Fair Lawn  
26-03-161 Boro of Wallington  
26-03-171 Boro of Garfield Water  
26-03-211 Boro of Fair Lawn  
26-03-256 Hackensack Water Company  
26-03-355 Hackensack Water Company  
26-03-382 Lodi Dept. of Public Works  
26-03-426 East Paterson, Borough of  
26-03-427 Borough of Wallington  
26-03-453 City of Garfield  
26-03-456 City of Garfield  
26-03-456 City of Garfield  
26-03-469 City of Garfield  
26-03-469 City of Garfield  
26-03-469 City of Garfield  
26-03-483 City of Garfield  
26-03-489 City of Garfield  
26-03-493 City of Garfield  
26-03-538 Lodi, Borough of  
26-03-542 City of Garfield  
26-03-546 Lodi, Borough of  
26-03-548 Lodi, Borough of  
26-03-548 Lodi, Borough of  
26-03-554 Lodi Dept. of Public Works  
26-03-561 Boro of Lodi  
26-03-575 Boro of Lodi  
26-03-581 Boro of Lodi  
26-03-582 Lodi Dept. of Public Works  
26-03-586 Boro of Lodi  
26-03-591 Boro of Lodi  
26-03-594 Boro of Lodi  
26-03-623 Hackensack Water Company  
26-03-632 Hackensack Water Company  
26-03-632 Hackensack Water Company  
26-03-756 Boro of Wallington  
26-03-768 Boro of Wallington  
26-03-793 Boro of Wallington  
26-03-888 Hackensack Water Company  
26-03-888 Hackensack Water Company  
26-03-894 Hackensack Water Company  
26-04-474 Bogota Water Co.  
26-04-816 Leonia Bd. of Education  
26-11-118 Boro of Essex Falls  
26-11-134 Boro of Essex Falls  
26-11-142 Boro of Essex Falls  
26-11-183 Twp. of Livingston  
26-11-185 Twp. of Livingston  
26-11-186 Twp. of Livingston  
26-11-211 Boro of Essex Falls  
26-11-212 Boro of Essex Falls  
26-11-213 Boro of Essex Falls  
26-11-221 Boro of Essex Falls  
26-11-224 Boro of Essex Falls  
26-11-225 Boro of Essex Falls  
26-11-259 Boro of Essex Falls  
26-11-451 Twp. of Livingston  
26-11-464 Twp. of Livingston  
26-11-546 Rahway Water Dept.  
26-11-713 East Orange, City of  
26-11-717 East Orange, City of  
26-11-717 East Orange, City of  
26-11-728 East Orange, City of

26-11-793 City of Orange  
26-11-796 City of Orange  
26-11-797 City of Orange  
26-11-819 City of Orange  
26-11-847 City of Orange  
26-11-896 Village of South Orange  
26-11-933 Orange Water Dept.  
26-11-939 City of Orange  
26-11-943 Village of South Orange  
26-11-945 Village of South Orange  
26-11-957 Village of South Orange  
26-11-971 Village of South Orange  
26-12-194 Town of Montclair  
26-12-194 Montclair Water Bureau  
26-12-449 City of Orange  
26-12-729 Vinton Apartments, Inc.  
26-13-226 Hackensack Water Company  
26-21-131 City of Orange  
26-21-138 Township of Millburn  
26-21-153 Short Hills Water Company

26-21-159 Short Hills Water Company  
26-21-246 Elizabethtown Water Company  
26-21-247 Elizabethtown Water Company  
26-21-364 Irvington, City of  
26-21-484 Plainfield-Union Water Co.  
26-21-491 Elizabethtown Water Company  
26-21-538 Union County Park Commission  
26-21-573 Plainfield-Union Water Co.  
26-21-663 Elizabethtown Water Co.  
26-21-834 Plainfield-Union Water Co.  
26-22-834 U. S. Navy  
26-22-293 New York Port Authority  
26-22-449 Elizabethtown Water Company  
26-31-243 Rahway, City of  
26-31-274 Rahway, City of  
26-31-465 Middlesex Water Company  
26-41-133 N. J. Highway Authority  
26-41-578 City of South Amboy  
26-41-594 City of South Amboy

Scale: 1:63,360



## SURFACE WATER INTAKES

26-02-445 Passaic Valley Water Commission  
26-11-819 Orange City Water Dept.  
26-31-168 Middlesex Water Co. (Robinson's)  
26-31-246 Rahway Water Dept.

## SOURCES

1. HUDSON RIVER COUNTY PLANNING BOARD, COMPREHENSIVE WATER PLAN PHASE ONE, APPENDIX: COMPREHENSIVE WATER PLAN PHASE ONE; COMPREHENSIVE WATER PLAN PHASE TWO AND THREE; RECOMMENDED WATER AND SEWER SOURCES; PLAN AND PARAGRAPHS, DEC. 1968, 1971, 1973, 1974
2. HUDSON COUNTY MASTER PLAN PROGRAM, SUMMARY - SEWER AND WATER PLAN, 1971.
3. PASSAIC COUNTY WATER STUDY, 1968.
4. MORRIS COUNTY MASTER PLAN WATER SUPPLY ELEMENT, 1971.
5. INFORMATION SUPPLIED BY ESSEX COUNTY DEPARTMENT OF PLANNING.
6. HUDSON COUNTY MASTER PLAN ON LAND USE - ORANGE AND WATER, 1968.
7. ESSEX COUNTY COMPREHENSIVE PLAN WATER FACILITIES, FINAL REPORT, 1970.
8. INFORMATION SUPPLIED BY BUREAU OF POTABLE WATER.

## LEGEND



AREA SERVED BY PRIVATE WATER SERVICE COMPANIES



AREA SERVED BY REGIONALLY OWNED WATER SERVICE COMPANIES



AREA SERVED BY MUNICIPALLY OWNED WATER SERVICE COMPANIES



AREA NOT PRESENTLY SERVED BY WATER SERVICE



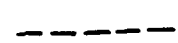
PUBLIC SUPPLY WELLS



SURFACE WATER INTAKE



MAJOR WATER MAINS



TOWNSHIP BOUNDARIES



COUNTY BOUNDARIES



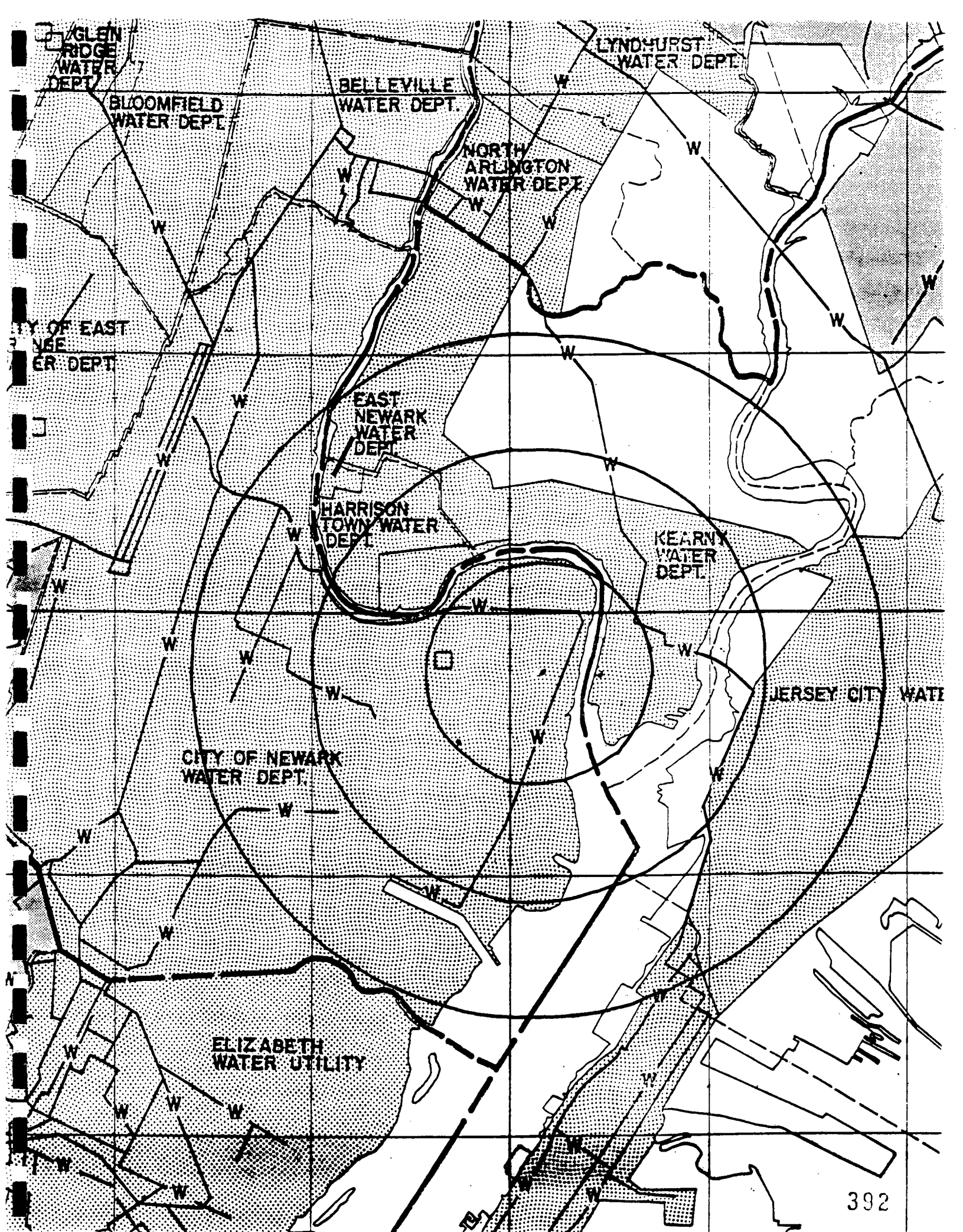
STATE BOUNDARIES

ALL MAP COORDINATES ARE FOR THE LOWER LEFT HAND CORNER.

## KEY TO ADJOINING SHEETS



WATER SUPPLY OVERLAY  
SHEET 26

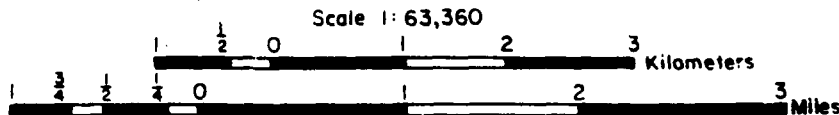


**REFERENCE NO. 26**

# ENVIRONMENTAL PROTECTION

## LAND USE OVERLAY

### SHEET 26



#### LEGEND

##### URBAN AND BUILT-UP LAND

- 11 RESIDENTIAL
- 12 COMMERCIAL & SERVICES
- 13 INDUSTRIAL
- 14 TRANSPORTATION, COMMUNICATION & UTILITIES
- 15 INDUSTRIAL & COMMERCIAL COMPLEXES
- 16 MIXED URBAN & BUILT-UP LAND
- 17 OTHER URBAN OR BUILT-UP LAND

##### AGRICULTURAL LAND

- 21 CROPLAND & PASTURE
- 22 ORCHARDS & HORTICULTURAL AREAS

##### FOREST LAND

- 41 DECIDUOUS
- 42 EVERGREEN
- 43 MIXED

##### WATER

- 51 STREAMS & CANALS
- 52 LAKES
- 53 RESERVOIRS
- 54 BAYS & ESTUARIES

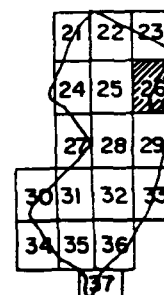
##### WETLAND

- 61 FORESTED WETLAND
- 62 NONFORESTED WETLAND

##### BARREN LAND

- 72 BEACHES
- 73 SAND OTHER THAN BEACHES
- 74 BARE EXPOSED ROCK
- 75 STRIP MINES, QUARRIES, & GRAVEL PITS

##### KEY TO ADJOINING SHEETS



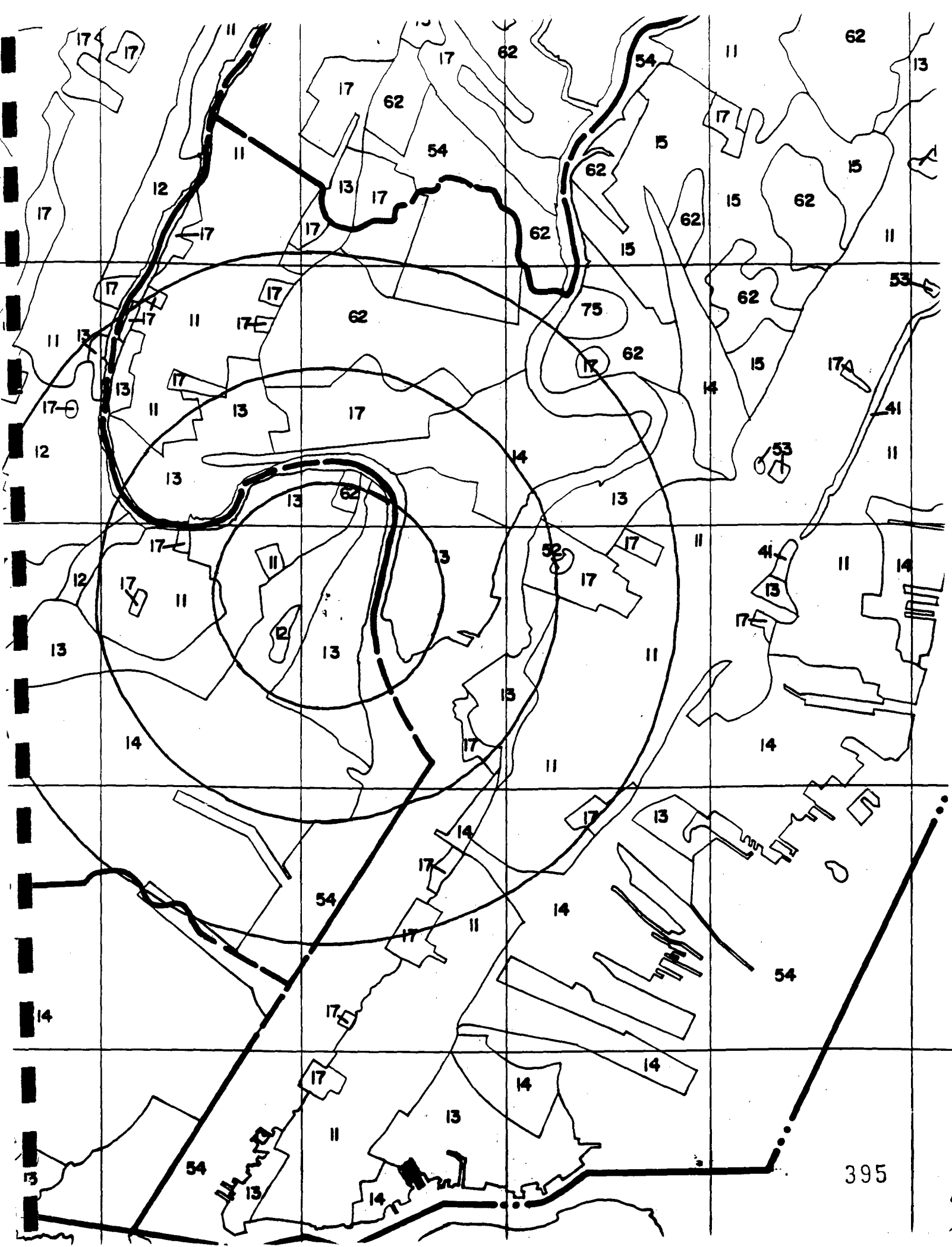
##### SOURCE

A. EROS IMAGE 6308067298, 9/21/73, ALTITUDE 250 MILES  
(AVAILABLE FROM EROS DATA CENTER, SIOUX FALLS, S.DAKOTA, 57198)

B. ANDERSON et al. A LAND USE CLASSIFICATION SYSTEM FOR USE WITH  
REMOTE-SENSOR DATA, U.S.G.S. PROF. PAPER 964, WASH. D.C. 1975

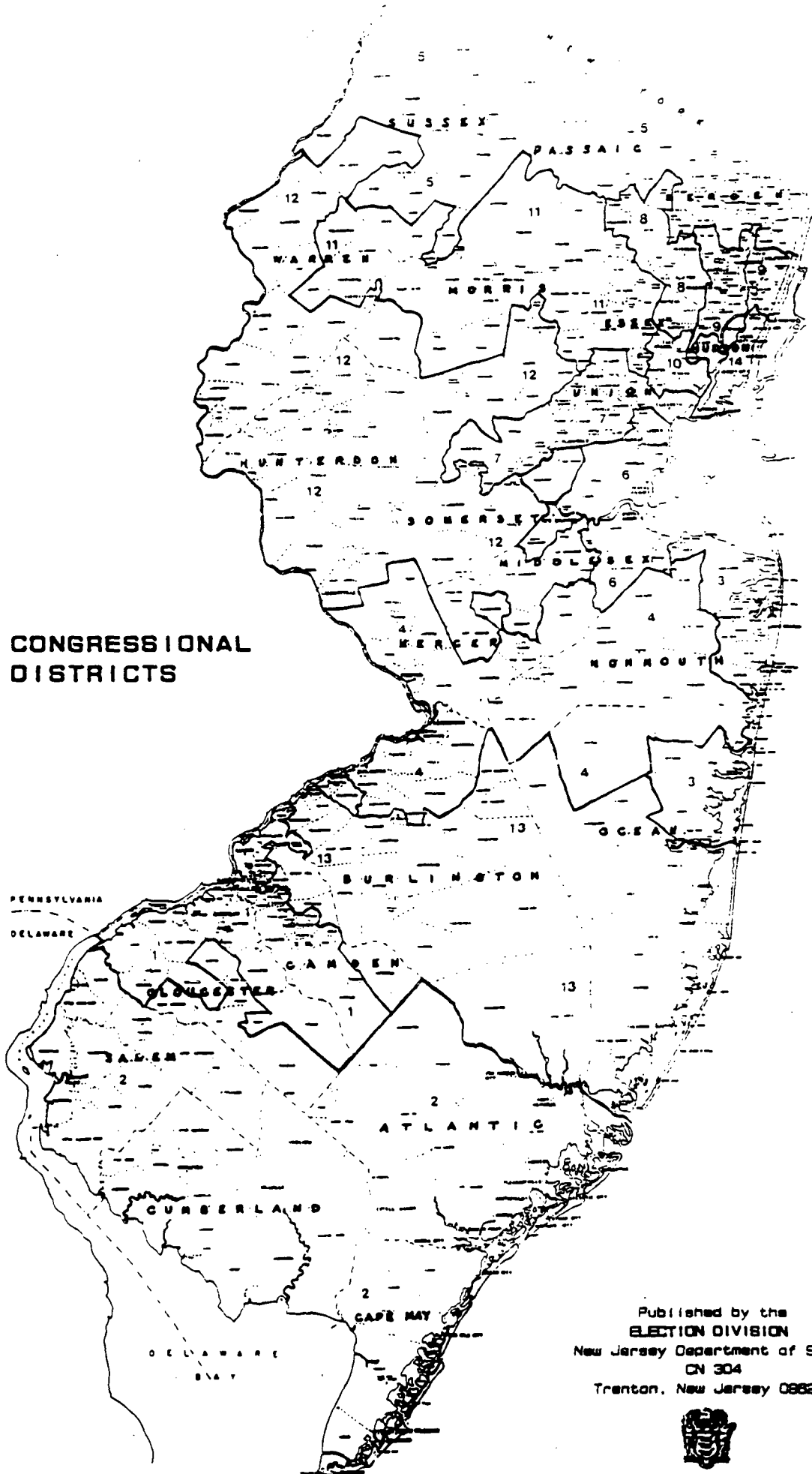
C. AERIAL PHOTO MAPS 1:24000 BY MARK MURD, AERIAL SURVEY INC.,  
MINNEAPOLIS, MINN., MARCH-APRIL 1972

BUREAU OF GEOLOGY AND TOPOGRAPHY  
KEMBLE WDMER, STATE GEOLOGIST  
1976



**REFERENCE NO. 27**

# CONGRESSIONAL DISTRICTS



Published by the  
ELECTION DIVISION  
New Jersey Department of State  
CN 304  
Trenton, New Jersey 08625



Thomas H. Kean  
Governor

Jane Burgis  
Secretary of State



# CONGRESSIONAL DISTRICTS

**DISTRICT ONE:** Part of Burlington County (Maple Shade Twp., Palmira Borough, Riverton Borough), Part of Camden County (Audubon Park Borough, Barrington Borough, Bellmawr Borough, Berlin Borough, Berlin Twp., Brooklawn Borough, Camden City, Chesnuthurst Borough, Clementon Borough, Collingswood Borough, Gibbsboro Borough, Gloucester City, Gloucester Twp., Haddon Twp., Haddonfield Borough, Laurel Springs Borough, Limerick Borough, Lindenwald Borough, Manalapa Borough, Mount Ephraim Borough, Oaklyn Borough, Pennsauken Twp., Pine Hill Borough, Pine Valley Borough, Runnemede Borough, Somerdale Borough, Stratford Borough, Tavistock Borough, Winslow Twp. and Woodlynne Borough), and Part of Gloucester County (Clayton Borough, Deptford Twp., East Greenwich Twp., Greenwich Twp., Harrison Twp., Logan Twp., Monroe Twp., National Park Borough, Paulsboro Borough, Swedesboro Borough, Washington Twp., Wenonah Borough, West Deptford Twp., Westville Borough, Woodbury City, Woodbury Mts. Borough and Woolwich Twp.).

**DISTRICT TWO:** Atlantic County, Cape May County, Cumberland County, Salem County and Part of Gloucester County (Elk Twp., Franklin Twp., Glassboro Borough, Mantua Twp., Newfield Borough, Pitman Borough and South Harrison Twp.).

**DISTRICT THREE:** Part of Monmouth County (Allenhurst Borough, Asbury Park City, Atlantic Highlands Borough, Avon-by-the-Sea Borough, Belmar Borough, Bradley Beach Borough, Deal Borough, Eatontown Borough, Fair Haven Borough, Hazlet Twp., Highlands Borough, Interlaken Borough, Keanburg Borough, Keyport Borough, Little Silver Borough, Loch Arbour Village, Long Branch City, Manasquan Borough, Middletown Twp., Monmouth Beach Borough, Neptune City Borough, Neptune Twp., Oceanport Borough, Ocean Twp., Red Bank Borough, Rumson Borough, Sea Bright Borough, Sea Girt Borough, Shrewsbury Borough, Shrewsbury Twp., Spring Lake Heights Borough, Spring Lake Heights Borough, South Belmar Borough, Tinton Falls Borough, Union Beach Borough and West Long Branch Borough) and Part of Ocean County (Bay Head Borough, Brick Twp., Dover Twp., Island Heights Borough, Lakewood Twp., Lavellette Borough, Mantoloking Borough, Point Pleasant Beach Borough, Point Pleasant Borough, Seaside Heights Borough and South Lons River Borough).

**DISTRICT FOUR:** Part of Burlington County (Bordentown City, Bordentown Twp., Burlington City, Burlington Twp., Chesterfield Twp., Eastampton Twp., Fieldsboro Borough, Florence Twp., Mansfield Twp., Springfield Twp. and Westampton Twp.) Part of Mercer County (East Windsor Twp., Ewing Twp., Hamilton Twp., Hightstown Borough, Hopewell Borough, Hopewell Twp., Lawrence Twp., Pennington Borough, Trenton City and Washington Twp.), Part of Middlesex County (Jamesburg Borough, Monroe Twp. and Plainsboro Twp.), Part of Monmouth County (Allentown Borough, Brielle Borough, Colts Neck Twp., Englishtown Borough, Farmingdale Borough, Freehold Borough, Freehold Twp., Holmdel Twp., Howell Twp., Manalapan Twp., Marlboro Twp., Millstone Twp., Roosevelt Borough, Upper Freehold Twp. and Wall Twp.), and Part of Ocean County (Jackson Twp.).

**DISTRICT FIVE:** Part of Bergen County (Allendale Borough, Alpine Borough, Bergenfield Borough, Closter Borough, Crosskill Borough, Demarest Borough, Dumont Borough, Emerson Borough, Glen Rock Borough, Harrington Park Borough, Hillsdale Borough, Ho-Ho-Kus Borough, Mahwah Twp., Midland Park Borough, Montvale Borough, Northvale Borough, Norwood Borough, Oakland Borough, Old Tappan Borough, Oradell Borough, Paramus Borough, Park Ridge Borough, Ramsey Borough, Ridgewood Village, River Vale Twp., Rochelle Park Twp., Rockleigh Borough, Saddle River Borough, Tenafly Borough, Upper Saddle River Borough, Waldwick Borough, Washington Twp., Westwood Borough, Woodcliff Lake Borough and Wyckoff Twp.), Part of Passaic County (Bloomfield Borough, Mahanoy Borough, Hawthorne Borough, North Mahanoy Borough, Ringwood Borough, Wanauque Borough and West Milford Twp.), and Part of Sussex County (Andover Borough, Andover Twp., Branchville Borough, Frankford Twp., Franklin Borough, Freedom Twp., Hamouge Borough, Hardyston Twp., Hopatcong Borough, Lafayette Twp., Montague Twp., Newton Town, Ogdenburg Borough, Sandvaston Twp., Sports Twp., Stanhope Borough, Sussex Borough, Vernon Twp., Walpack Twp. and Wantage Twp.).

**DISTRICT SIX:** Part of Middlesex County (Carteret Borough, Edison Twp., Highland Park Borough, Metuchen Borough, New Brunswick City, North Brunswick Twp., Old Bridge Twp., Perth Amboy City, Sayreville Borough, South Amboy City, South River Borough and Woodbridge Twp.), Part of Monmouth County (Aberdeen Twp. and Matawan Borough), and Part of Union County (Linden City, Rahway City and Roselle Borough).

**DISTRICT SEVEN:** Part of Essex County (Milburn Twp.), Part of Middlesex County (Dunellen Borough and Middlesex Borough), Part of Somerset County (Bound Brook Borough, Bridgewater Twp., Green Brook Twp., Manville Borough, North Plainfield Borough, Warren Twp. and Watchung Borough), and Part of Union County (Berkeley Heights Twp., Clark Twp., Cranford Twp., Elizabeth City, Fanwood Borough, Garwood Borough, Kenilworth Borough, Mountainside Borough, New Providence Borough, Plainfield City, Roselle Park Borough, Scotch Plains Twp., Springfield Twp., Summit City, Union Twp., Westfield Town and Winfield Twp.).

**DISTRICT EIGHT:** Part of Bergen County (Franklin Lakes Borough), Part of Essex County (Part of Belleville Town, Bloomfield Town, Glen Ridge Borough, Montclair Town and Nutley Town), Part of Morris County (Riverdale Borough) and Part of Passaic County (Clifton City, Little Falls Twp., Passaic City, Paterson City, Pompton Lakes Borough, Prospect Park Borough, Totowa Borough, Wayne Twp. and West Paterson Borough).

**DISTRICT NINE:** Part of Bergen County (Bohaca Borough, Carlstadt Borough, Cliffside Park Borough, East Rutherford Borough, Edgewater Borough, Elmwood Park Borough, Englewood City, Englewood Cliffs Borough, Fair Lawn Borough, Fairview Borough, Fort Lee Borough, Garfield City, Hackensack City, Haddonfield Heights Borough, Leonia Borough, Little Ferry Borough, Lodi Borough, Lyndhurst Twp., Maywood Borough, Monmouth Borough, New Milford Borough, North Arlington Borough, Palisades Park Borough, Ridgefield Borough, Ridgefield Park Village, River Edge Borough, Rutherford Borough, Saddle Brook Twp., South Hackensack Twp., Teaneck Twp., Teeterboro Borough, Wallington Borough and Wood-Ridge Borough) and Part of Hudson County (East Newark Borough, Part of Kearny Town, and Secaucus Town).

→ **DISTRICT TEN:** Part of Essex County (Part of Belleville Town, East Orange City, Irvington Town, Newark City and Orange City) and Part of Union County (Hillside Township).

**DISTRICT ELEVEN:** Part of Essex County (Caldwell Borough, Cedar Grove Twp., Essex Falls Borough, Fairfield Borough, Livingston Twp., Maplewood Twp., North Caldwell Borough, Roseland Borough, South Orange Village, Verona Borough, West Caldwell Borough and West Orange Town), Part of Morris County (Boonton Town, Boonton Twp., Butler Borough, Chatham Borough, Chester Borough, Chester Twp., Denville Twp., Dover Town, East Hanover Twp., Elmwood Park Borough, Hanover Twp., Jefferson Twp., Kinnelon Borough, Lincoln Park Borough, Madison Borough, Mendham Borough, Mendham Twp., Mine Hill Twp., Montville Twp., Mountain Lakes Borough, Mount Arlington Borough, Mount Olive Twp., Netcong Borough, Parsippany-Troy Mills Twp., Pequannock Twp., Randolph Twp., Rockaway Borough, Rockaway Twp., Roxbury Twp., Victory Gardens Borough and Wharton Borough), Part of Sussex County (Byram Twp. and Green Twp.) and Part of Warren County (Allamuchy Twp., Frelinghuysen Twp., Independence Twp. and Liberty Twp.).

**DISTRICT TWELVE:** Hunterdon County, Part of Mercer County (Princeton Borough, Princeton Twp. and West Windsor Twp.) Part of Middlesex County (Cranbury Twp., East Brunswick Twp., Helmetta Borough, Milltown Borough, Piscataway Twp., South Brunswick Twp., South Plainfield Borough and Spotswood Borough), Part of Morris County (Chatham Twp., Harding Twp., Morris Plains Borough, Morristown Town, Morris Twp., Passaic Twp. and Washington Twp.), Part of Somerset County (Bedminster Twp., Bernards Twp., Bernardsville Borough, Branchburg Twp., Far Hills Borough, Franklin Twp., Hillsborough Twp., Millstone Borough, Montgomery Twp., Peapack-Gladstone Borough, Raritan Borough, Rocky Hill Borough, Somerville Borough and South Bound Brook Borough), Part of Sussex County (Hampton Twp. and Stillwater Twp.) and Part of Warren County (Alpha Borough, Belvidere Town, Blairstown Twp., Franklin Twp., Greenwich Twp., Hackenskill Town, Hardwick Twp., Harmony Twp., Hope Twp., Knowlton Twp., Lopatcong Twp., Mansfield Twp., Oxford Twp., Pahaquarry Twp., Phillipsburg Town, Pohatcong Twp., Washington Borough, Washington Twp. and White Twp.).

**DISTRICT THIRTEEN:** Part of Burlington County (Bass River Twp., Beverly City, Cinnaminson Twp., Delanco Twp., Delran Twp., Edgewater Park Twp., Evesham Twp., Hainesport Twp., Lambertown Twp., Medford Lakes Borough, Medford Twp., Moorestown Twp., Mount Holly Twp., Mount Laurel Twp., New Hanover Twp., North Hanover Twp., Pemberton Borough, Pemberton Twp., Riverside Twp., Shamong Twp., Southampton Twp., Tabernacle Twp., Washington Twp., Willingboro Twp., Woodland Twp. and Wrightstown Borough), Part of Camden County (Audubon Borough, Cherry Hill Twp., Haddonfield Borough, Haddon Heights Borough, Merchantville Borough, Voorhees Twp. and Waterford Twp.) and Part of Ocean County (Barnegat Light Borough, Barnegat Twp., Beach Haven Borough, Beachwood Borough, Berkeley Twp., Englewood Twp., Harvey Cedars Borough, Lacey Twp., Lakeshore Borough, Little Egg Harbor Twp., Long Beach Twp., Manchester Twp., Ocean Gate Borough, Ocean Township, Pine Beach Borough, Plumstead Twp., Seaside Park Borough, Ship Bottom Borough, Stafford Twp., Surf City Borough and Tuckerton Borough).

**DISTRICT FOURTEEN:** Part of Hudson County (Bayonne City, Guttenberg Town, Harrison Town, Hoboken City, Jersey City, Part of Kearny Town, North Bergen Twp., Union City, Weehawken Twp. and West New York Town).

**REFERENCE NO. 28**



# **Surface Water Classifications**

## **Surface Water Quality Standards N.J.A.C. 7:9-4**

**Index D-**

**Surface Water Classifications of the Passaic,  
Hackensack and N.Y. Harbor Complex Basin**

**July 1985**

400

(Stockholm) - Brook between Hamburg Turnpike and Williamsville-Stockholm Rd. to its confluence with Lake Stockholm Brook, north of Rt. 23	FW1 [tm]
LITTLE POND BROOK (Oakland) - Entire length	FW2-TP (C1)
LOANTAKA BROOK	
(Green Village) - Entire length, except segment described below	FW2-NT
(Great Swamp) - Brook and all tributaries within the boundaries of Great Swamp National Wildlife Refuge	FW2-NT (C1)
LUD-DAY BROOK	
(Camp Garfield) - Source to confluence with a tributary from Camp Garfield	FW1
MACOPIN RIVER	
(Newfoundland) - Source to Echo Lake dam	FW2-NT
(Newfoundland) - Echo Lake dam to Pequannock River	FW2-TM
MEADOW BROOK (Wanaque) - Skyline Lake to Wanaque River	FW2-NT
MILL BROOK	
(Randolph) - Source to Rt. 10 bridge	FW2-TP (C1)
(Randolph) - Rt. 10 bridge to Rockaway River	FW2-NT
MORSES CREEK - Entire length	FW2-NT/SE3
MOSSMAN'S BROOK - See CLINTON BROOK	
MT. TABOR BROOK (Morris Plains) - Entire length	FW2-NT
NEWARK BAY (Newark) - North of an east-west line connecting Elizabethport with Bergen Pt., Bayonne up to the mouths of the Passaic and Hackensack Rivers	SE3
NOSENZO POND (Upper Macopin)	FW2-NT (C1)
OAK RIDGE RESERVOIR (Oak Ridge)	FW2-TM
OAK RIDGE RESERVOIR (Oak Ridge) - Northwestern tributary to Reservoir	FW1 [tm]
OVERPECK CREEK (Palisades Park) - Entire length	FW2-NT/SE2
PECKMAN RIVER (Verona) - Entire length	FW2-NT
PACACK BROOK	
(Stockholm) - Source to Pequannock River, excluding Canistear Reservoir, except segments described separately below	FW2-NT
(Canistear) - Brook and tributaries upstream of Canistear Reservoir located entirely within the boundaries of the Newark Watershed	FW1
PASSAIC RIVER	
(Mendham) - Source to Rt. 202 bridge (Van Doren's Mill), except tributaries described separately below	FW2-TM
(Paterson) - Rt. 202 bridge to Dundee Lake dam	FW2-NT
(Little Falls) - Dundee Lake dam to confluence with Second River	FW2-NT/SE2
(Newark) - Confluence with Second River to mouth	SE3

(c) In all FW2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Primary and secondary contact recreation;
3. Industrial and agricultural water supply;
4. Public potable water supply after such treatment as required by law or regulation; and
5. Any other reasonable uses.

(d) In all SE1 waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;
2. Maintenance, migration and propagation of the natural and established biota;
3. Primary and secondary contact recreation; and
4. Any other reasonable uses.

(e) In all SE2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

~~SE3~~ (f) In all SE3 waters the designated uses are:

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses.

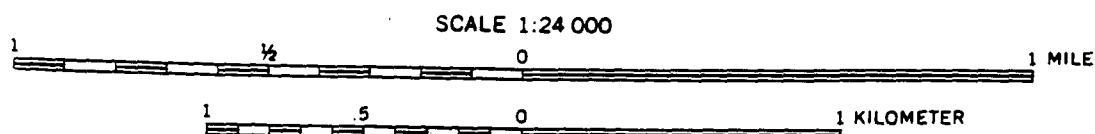
(g) In all SC waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

**REFERENCE NO. 29**

# BEDROCK TOPOGRAPHY AND THICKNESS OF PLEISTOCENE DEPOSITS IN UNION COUNTY AND ADJACENT AREAS, NEW JERSEY

By  
Bronius Nemickas  
1974



CONTOUR INTERVALS 10 AND 20 FEET  
DEPTH CURVE AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER  
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER  
THE MEAN RANGE OF TIDE IS APPROXIMATELY 5.3 FEET

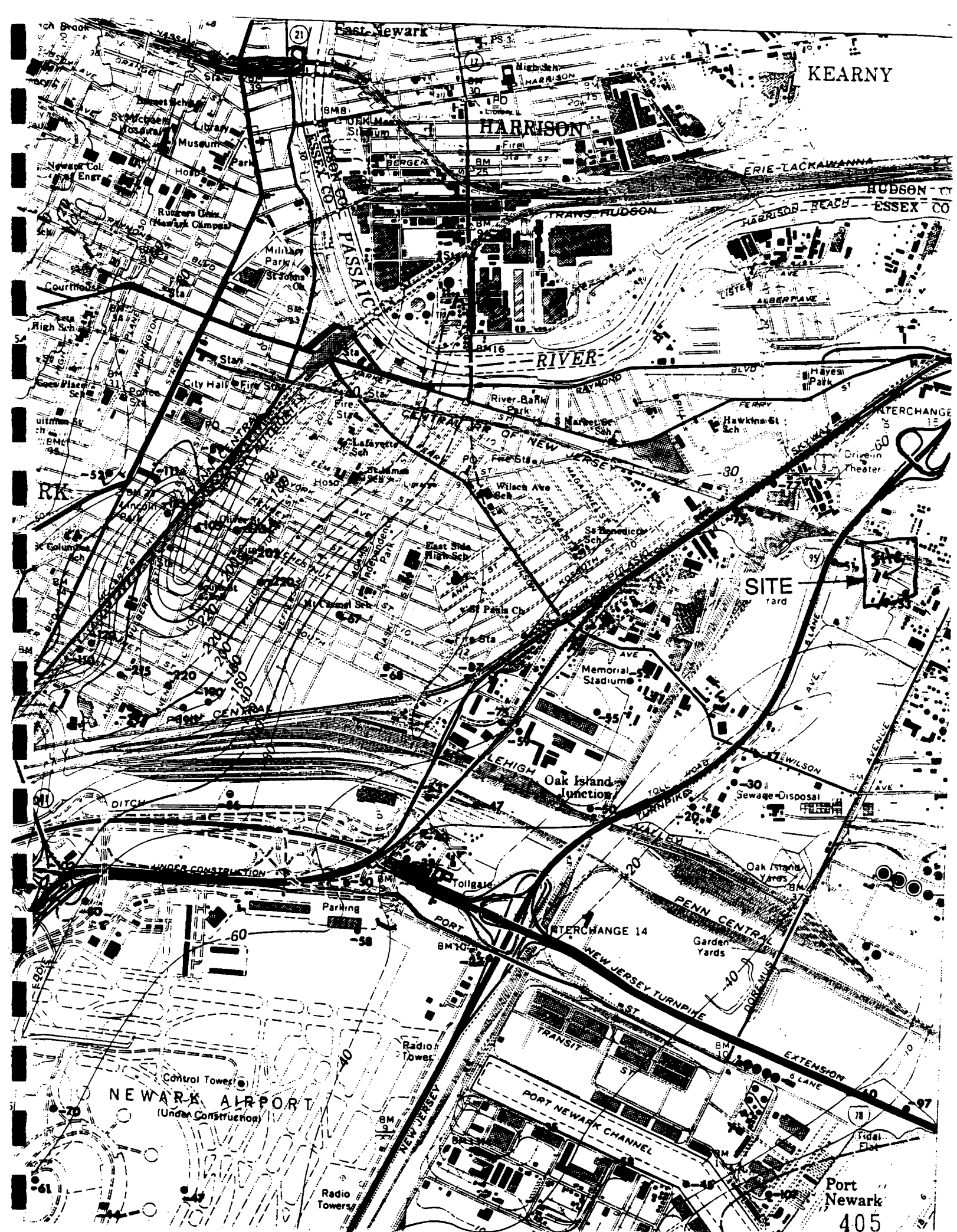


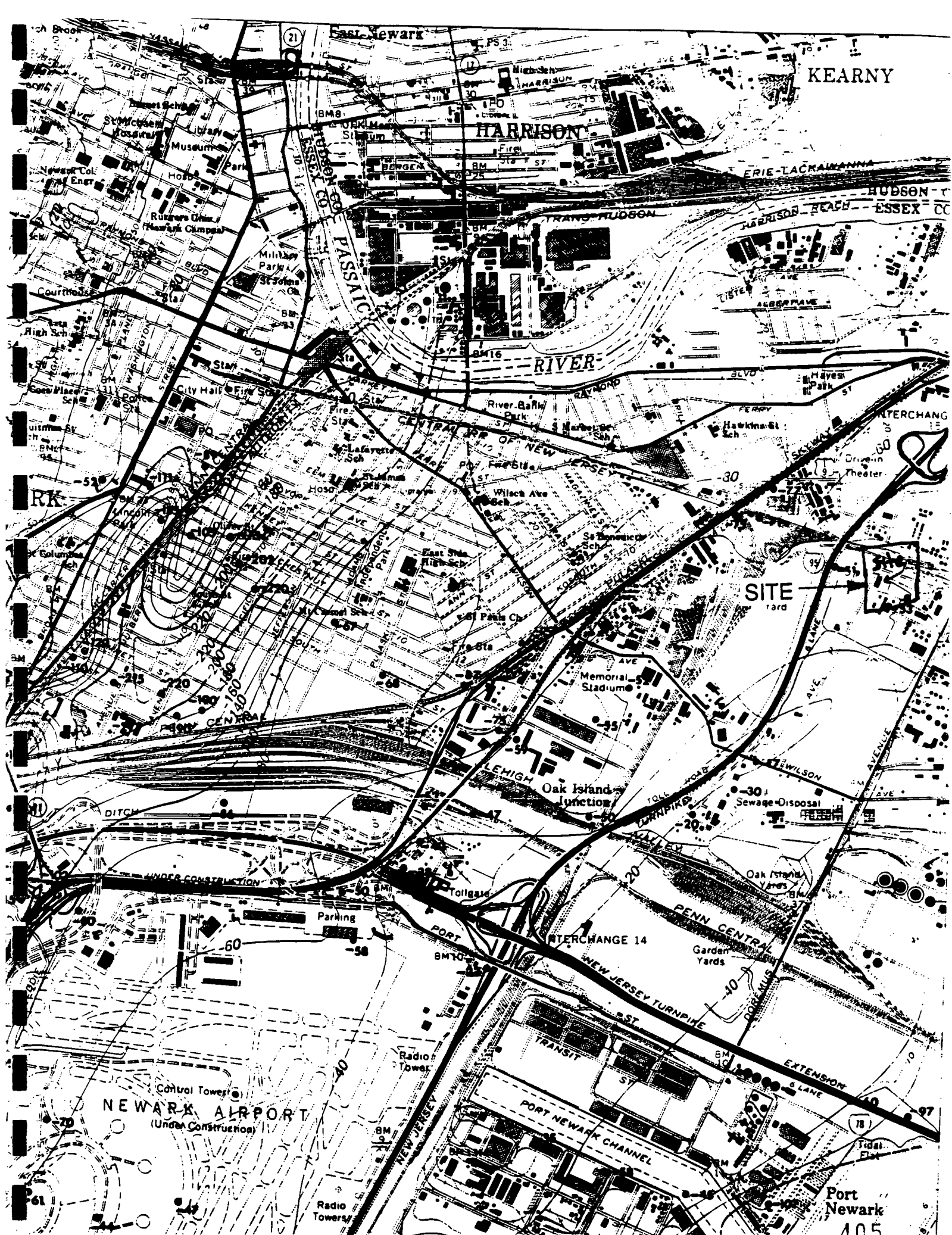
## EXPLANATION

●27 WELL OR BORING — Number indicates altitude of bedrock surface, in feet above or (– below) mean sea level

— 0 — BEDROCK CONTOUR — Shows altitude of bedrock surface. Dashed where approximately located. Contour interval 20 feet. Datum is mean sea level







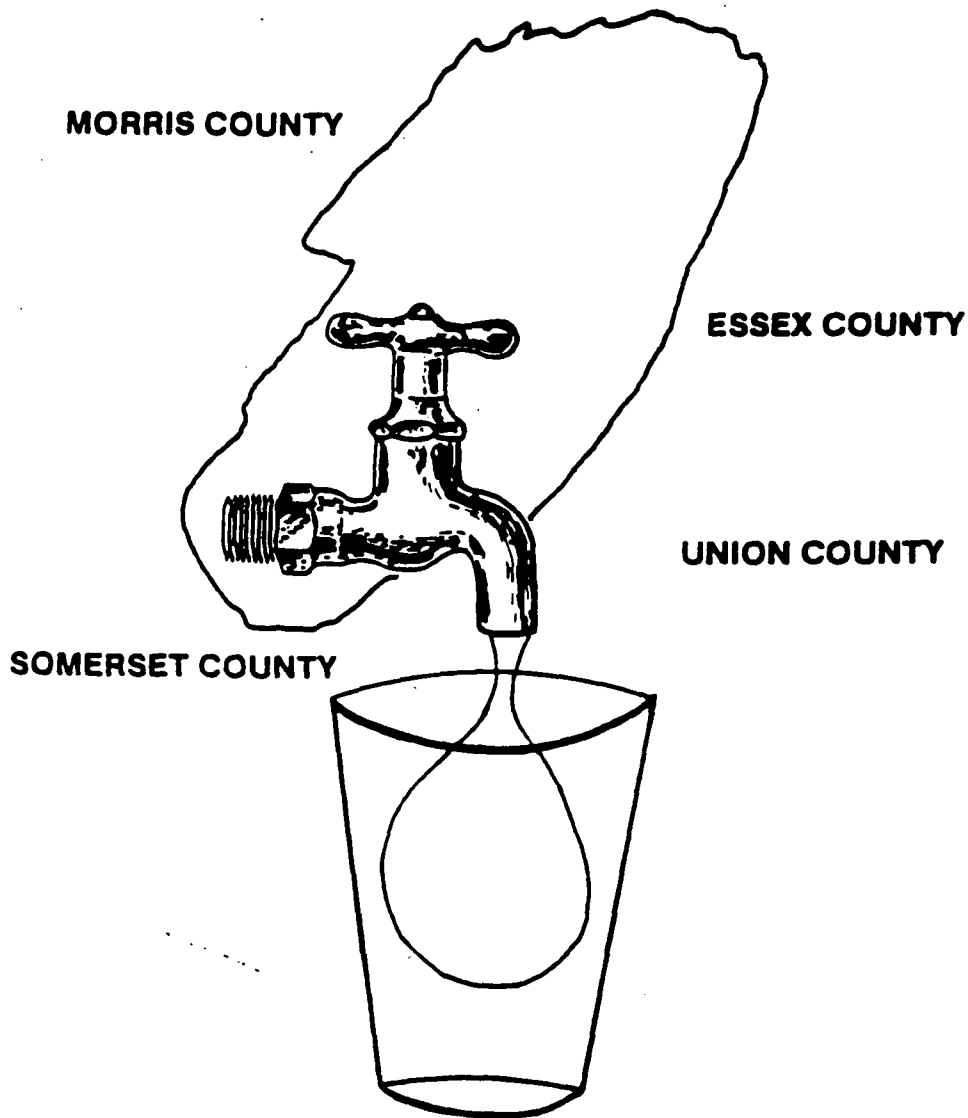
**REFERENCE NO. 30**

127/3  
2  
:H99

# THE HYDROGEOLOGY OF THE BURIED VALLEY AQUIFER SYSTEM,

ROTCERS UNIVERSITY  
LIBRARY OF SCIENCE AND MEDICINE  
GOVERNMENT DOCUMENTS DEPARTMENT

FEB 14 1978



PASSAIC RIVER COALITION

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1983

407

size and number of the intersecting fractures. The yield of such rocks can vary considerably within a short distance, both horizontally and vertically. Because fractures are wider toward the surface due to weathering, a well in Precambrian rock is unlikely to supply much water below 300 feet. The 79 large-diameter public supply, industrial, and commercial wells operating in 1965 throughout Morris County yielded an approximate average of 121 gallons per minute (gpm), and the maximum and minimum yields were 400 and 5 gpm respectively. The larger amounts are usually associated with fault zones. (Gill and Vecchioli, 1965).

Water quality from Precambrian wells is generally good. Hardness ranges from soft (less than 50 ppm) to moderately hard (60-120 ppm); pH ranges from slightly acidic to slightly alkaline; and iron occurs in objectionable quantities in some areas (Gill and Vecchioli, 1965).

#### Newark Group: Brunswick Formation

The Brunswick Formation serves as an aquifer in the following communities: Chatham Borough, East Hanover Township, Florham Park Borough, Hanover Township, Harding Township, Lincoln Park Borough, Montville Township, Morris Township, Town of Morristown, Parsippany-Troy Hills Township, and Passaic Township in Morris County; Caldwell Borough, Fairfield Borough, Livingston Township, Millburn Township, North Caldwell Borough, Roseland Borough, West Caldwell Borough, and West Orange Town in Essex County; and Berkeley Heights Township, New Providence Borough, and Summit City in Union County (Gill and Vecchioli, 1965; Nichols, 1968a; Nemickas, 1976).

**Table 2. Municipalities Entirely or Partially Within the Sole Source Aquifer Designated Area**

Somerset County

Bernards Township  
Bernardsville  
Warren Township

Union County

Berkeley Heights  
New Providence  
Summit

Essex County

Caldwell  
Essex Fells  
Fairfield  
Livingston  
Millburn  
North Caldwell  
Roseland  
West Caldwell

Morris County

Boonton  
Boonton Township  
Chatham  
Chatham Township  
Denville  
Dover  
East Hanover Township  
Florham Park

Morris County (Cont'd)

Hanover Township  
Harding Township  
Jefferson Township  
Kinneelon  
Lincoln Park  
Madison  
Mendham  
Mendham Township  
Mine Hill  
Montville Township  
Morris Plains  
Morristown  
Morris Township  
Mountain Lakes  
Mt. Arlington  
Passaic Township  
Parsippany-Troy Hills Township  
Randolph Township  
Rockaway  
Rockaway Township  
Roxbury  
Sparta  
Victory Gardens  
Wharton

Source: Federal Register Vol. 45, No. 91:30537.

**REFERENCE NO. 31**



SEDIMENTOLOGY OF NEWARK BAY, NEW JERSEY:

AN URBAN ESTUARINE BAY

BY

Dennis John Suszkowski

A dissertation submitted to the Faculty of the University  
of Delaware in partial fulfillment of the requirements for the  
degree of Doctor of Philosophy in Marine Studies.

June, 1978

composed of fine sand, silt and clay (Schuberth, 1968). The sea level eventually rose high enough from the melting ice to breach the terminal moraine and flood Lake Hackensack. As the glaciers finally wasted away, the lands beneath it were uplifted, the streams were rejuvenated and deposited gravel, sand, and coarse silt over the varved clay beds (Schuberth, 1968). Recent sediments in Newark Bay overlies the post glacial outwash deposits.

### C. Waterway Usage

Newark Bay is situated in one of the most industrialized and populated areas in the eastern United States. The New York Metropolitan region has a population of over 14 million people. Principal manufactured products in the Newark Bay area are textiles, chemicals rubber products, electrical machinery and supplies. Petroleum products and building materials, brought to the waterfront terminals by vessel, are distributed throughout the area. Newark Bay and the Hackensack and Passaic Rivers are used by a variety of commercial and recreational vessels. The commercial deep-draft vessels include oil tankers and general cargo vessels, many of which are containerized cargo vessels having drafts in excess of 10 meters, lengths of over 250 meters, and beam widths greater than 30 meters. At Port Newark and Port Elizabeth, the Port of New York Authority maintains two of the largest marine transfer facilities in the world. Shallow draft vessels utilizing Newark Bay include all types of recreational vessels, barges and

tugs. In the Kill Van Kull, Newark Bay, and the Hackensack and Passaic Rivers, the U.S. Army Corps of Engineers maintains approximately 35 kilometers of navigation channels

Since the Newark Bay region is extremely populated and heavily industrialized, it has only been natural that the waters of this region be used for industrial and municipal waste disposal. Leighton (1902) stated that the natural resources of the Passaic River were severely damaged due to water pollution 75 years ago. Suszkowski (1973) showed that dissolved oxygen levels in all sections of New York Harbor declined dramatically at the turn of the century due to the increased organic loadings of a growing populous. Mueller et al.(1976) indicate that at present, Newark Bay and the Hackensack and Passaic Rivers receive discharges of domestic and industrial wastewater amounting to  $6.6 \text{ m}^3/\text{sec}$ . This is approximately 13% of the total fresh water input into Newark Bay.

**REFERENCE NO. 32**

# THE LATEST TRIASSIC AND EARLY JURASSIC FORMATIONS OF THE NEWARK BASIN (EASTERN NORTH AMERICA, NEWARK SUPERGROUP): STRATIGRAPHY, STRUCTURE, AND CORRELATION

PAUL E. OLSEN

Bingham Laboratories, Department of Biology  
Yale University  
New Haven, Connecticut 06520

→ **ABSTRACT.** *Newark Supergroup deposits of the Newark Basin (New York, New Jersey, and Pennsylvania) are here divided into nine formations called (from the bottom up): Stockton Formation (maximum 1800 m); Lockatong Formation (maximum 1150 m); Passaic Formation (maximum 6000 m); Orange Mountain Basalt (maximum 200 m); Feltville Formation (maximum 600 m); Preakness Basalt (maximum +300 m); Towaco Formation (maximum 340 m); Hook Mountain Basalt (maximum 110 m); and Boonton Formation (maximum +500 m). The latter seven formations are new and result from subdividing the Brunswick Formation and Watchung Basalt of K\u00fcmmel and Darton. Each formation is characterized by its own suite of lithologies, the differences being especially obvious in the number, thickness, and nature of their gray and black sedimentary cycles (or lack thereof).*

*Newark Basin structure still escapes comprehensive understanding, although it is clear that faults (predominantly normal) and onlaps bound both the eastern and western edges of the basin. The cumulative thickness of formations and the apparent movement of the faults is greater on the western than the eastern side, however.*

*Fossils are abundant in the sedimentary formations of the Newark Basin and provide a means of correlating the sequence with other early Mesozoic areas. The Stockton, Lockatong, and most of the Passaic Formation are Late Triassic (?Middle and Late Carnian — Rhaetic) while the uppermost Passaic Formation (at least locally) and younger beds appear to be Early Jurassic (Hettangian and Sinemurian) in age. The distribution of kinds of fossils is intimately related to sequences of lithologies in sedimentary cycles.*

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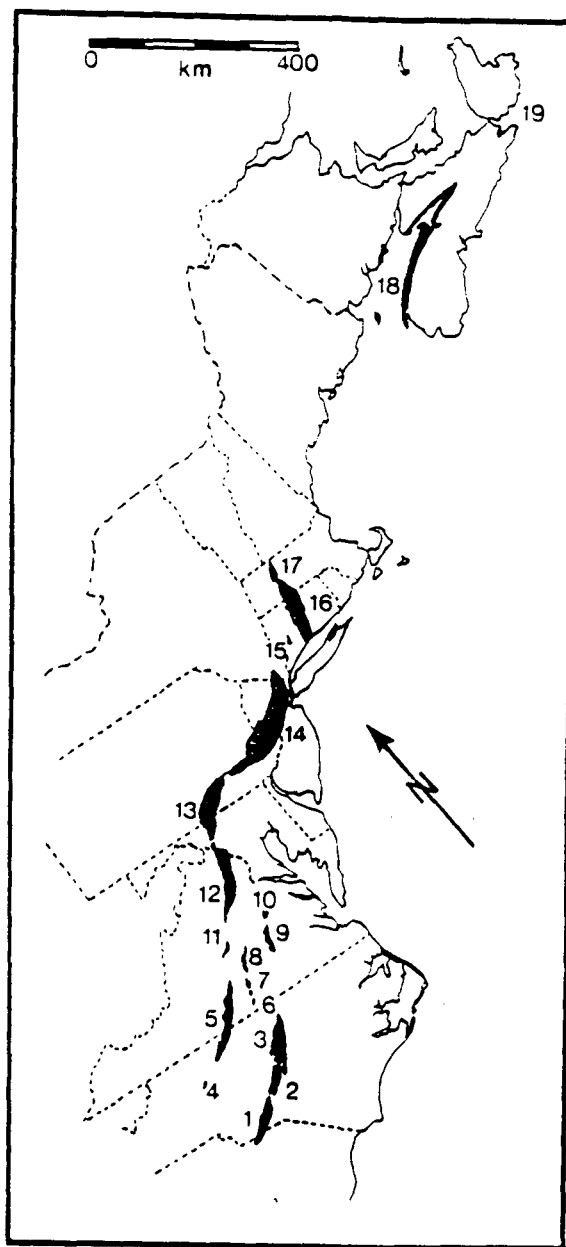
Revised manuscript received 16 Sep 1980.

## INTRODUCTION

Despite well over a century of interest in the early Mesozoic Newark Supergroup of eastern North America, many fundamental aspects of its historical and structural geology remain unexplored. In part, this is due to the complexity of stratigraphic and structural relations in the individual basins, coupled with the rarity of continuous exposures. As a result, much of our accepted understanding of the Newark Supergroup has been based on incomplete observations and opinion. The purpose of this paper is to provide a more thorough observational foundation against which past hypotheses may be assessed and on which future work may be based. Emphasis is placed on the younger beds of the Newark Basin, for they have never been examined in detail, and a new stratigraphic framework is proposed. These younger Newark Basin beds provide us with a key to understanding the entire basin column, which in turn is crucial to the context in which early Mesozoic organic evolution, continental sedimentation, and tectonic development are to be studied.

## REGIONAL SETTING

Triassic and Jurassic Newark Supergroup rocks (Figure 1) (Olsen, 1978; Van Houten, 1977) occupy numerous elongate basins in eastern North America and consist of predominantly detrital fill locally more than 10,000 m thick. In most



→ FIG. 1. Newark Supergroup deposits exposed in eastern North America: 1. Wadesboro Basin of Chatham Group; 2. Sanford Basin of Chatham Group; 3. Durham Basin of Chatham Group; 4. Davie County Basin; 5. Dan River — Danville Basins of Dan River Group; 6. Scottsburg Basin; 7. Basins south of the Farmville Basin; 8. Farmville Basin; 9. Richmond Basin; 10. Taylorsville Basin; 11. Scotsville Basin; 12. Culpeper Basin (Culpeper Group); 13. Gettysburg Basin; 14. Newark Basin; 15. Pomperaug Basin; 16. Hartford Basin; 17. Deerfield Basin; 18. Fundy Basin (Fundy Group); 19. Chedabucto Basin (= Orpheus Graben?). Data primarily from

areas, red clastics are the dominant sedimentary rocks and tholeiitic, intrusive and extrusive diabbases and basalts are the most common volcanics. These unconformably overlie (or rarely intrude) Precambrian and Palaeozoic rocks and are overlain by post-Jurassic rocks of the Coastal Plain, or alluvium and soils.

The Newark Basin is the most northerly of three Newark Supergroup basins lying in an arcuate belt stretching from southern New York to central Virginia (Figure 2). The region has attracted the attention of researchers since the beginnings of North American geological work (Kalm, 1753-1761; Schopf, 1783-1784); by about 1890 the deposit had been mapped out (Lyman, 1895; Cook, 1868) and by 1900 the currently used rock-stratigraphic framework was established (Table 1). Kümmel (1897) divided the Newark Basin sequence into three formations: the Stockton, Lockatong, and Brunswick. As recognized by Kümmel, the Stockton Formation (maximum thickness 1800 m) is the basal deposit consisting of thick beds of buff or cream colored conglomerate and sandstone, and red siltstone and sandstone. Throughout the exposed central portion of the Newark Basin, Kümmel recognized the Lockatong Formation (maximum thickness 1150 m) which is made up of gray and black siltstone arranged, as later shown by Van Houten (1969), in distinctive sedimentary cycles (Figure 4). The youngest formation Kümmel called the Brunswick. Throughout the Newark Basin, the lower Brunswick consists of sandstone and conglomerate and clusters of laterally persistent cycles of gray and black siltstone similar to the Lockatong Formation (Kümmel, 1897, 1898; McLaughlin, 1943; Van Houten, 1969). The upper Brunswick, on the other hand, is made up of three major extrusive basalt sheets which Darton (1890) called the Watchung Basalt, two major interbedded sedimentary units, and a thick overlying sedimentary unit. The latter sedimentary sequences have escaped even preliminary lithologic description.

Field work by this author during the past few years has shown that Kümmel's Brunswick For-

Calver, 1963; King, *et al.*, 1944; Van Houten, 1977; and Olsen, 1978.

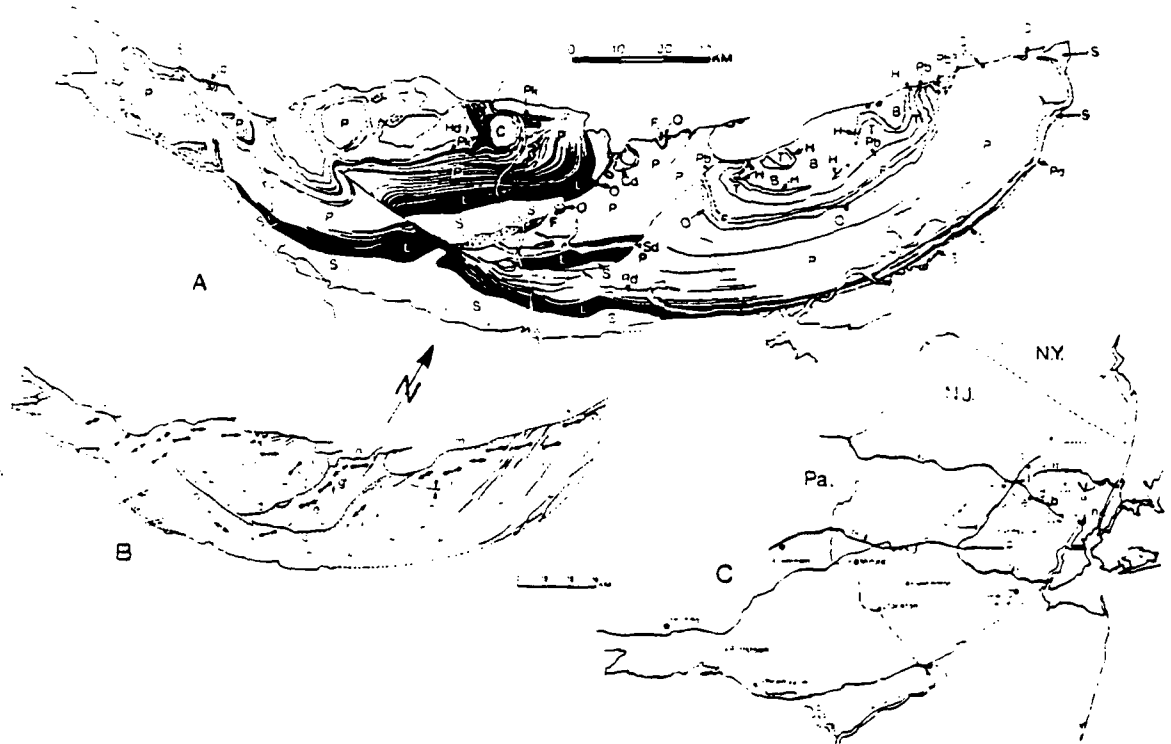


FIG. 2. The Newark Basin. A. geologic map showing distribution of formations, conglomerate facies (irregular stipple), and major clusters of detrital cycles in Passaic Formation (black lines). Abbreviations of formations and intrusive bodies as follows: B. Boonton Formation; C. Coffman Hill Diabase; Cd. Cushetunk Mountain Diabase; F. Feltville Formation; H. Hook Mountain Basalt; Hd. Haycock Mountain Diabase; Jb. Jacksonwald Basalt; L. Lockatong Formation; O. Orange Mountain Basalt; P. Passaic Formation; Pb. Preakness Basalt; Pd. Palisade Diabase; Pk. Perkaskie Member of Passaic Formation; Rd. Rocky Hill Diabase; S. Stockton Formation; Sd. Sourland Mountain Diabase; T. Towaco Formation.

B. Structural diagram of Newark Basin (note — parts of basin margin not mapped as faults should be regarded as onlaps, faults with teeth on downthrown side): a. Jacksonwald Syncline; b. Chalfont Fault; c. Hopewell Fault; d. Flemington Fault; e. Sand Brook Syncline; f. Flemington Syncline; g. Cushetunk Mountain Anticline; h. New Germantown Syncline; i. Somerville Anticline; j. New Vernon Anticline; k. Ladentown Syncline; l. Watchung Syncline; m. Ramapo Fault.

C. Geographic map of Newark Basin showing locations of type sections of formations proposed in this paper: a. type section of Passaic Formation; b. type section of Orange Mountain Basalt; c. type section of Feltville Formation; d. type section of Preakness Basalt; e. type section of Towaco Formation in Roseland, New Jersey; f. type section of Hook Mountain Basalt in Pine Brook, New Jersey; g. type section of Boonton Formation in Boonton, New Jersey; h. Lincoln Tunnel, Weehawken, New Jersey.

Data for A, B, and C from original observation and Kümmel, 1897, 1898; Lewis and Kümmel, 1910-1912; Darton, 1890, 1902; Darton *et al.*, 1908; Glaeser, 1963; Sanders, 1962; Van Houten, 1969; McLaughlin, 1941, 1943, 1944, 1945, 1946a, 1946b; Bascom *et al.*, 1909a, 1909b; Bailey *et al.*, 1914; Willard *et al.*, 1959; Manspiezer; pers. comm.

mation consists of a heterogeneous mix of major units of differing and distinctive lithology, each as distinct and perhaps originally as widespread as the Stockton or Lockatong; further, each "Watchung Basalt" and the interbedded and over-

lying sedimentary beds are lithologically distinct from the lower Brunswick. In addition, Cornet, McDonald, and Traverse (1973), Cornet and Traverse (1975), Cornet (1977), and Olsen and Galton (1977) have shown that much of the



upper Brunswick is Early Jurassic rather than Late Triassic as had been assumed. It now seems clear that these Jurassic rocks are in many ways different from the Late Triassic lower Brunswick, Lockatong, or Stockton formations. For these reasons, I propose the terms Brunswick Formation (Kümmel, 1897) and Watchung Basalt

(Darton, 1890) be dropped and their components subdivided to form seven new formations (Table 1) in parallel with Lehmann's (1959) widely used divisions of the Hartford Basin and Klein's (1962) divisions of the Fundy Group in accord with the American Code of Stratigraphic Nomenclature and the International Stratigraphic

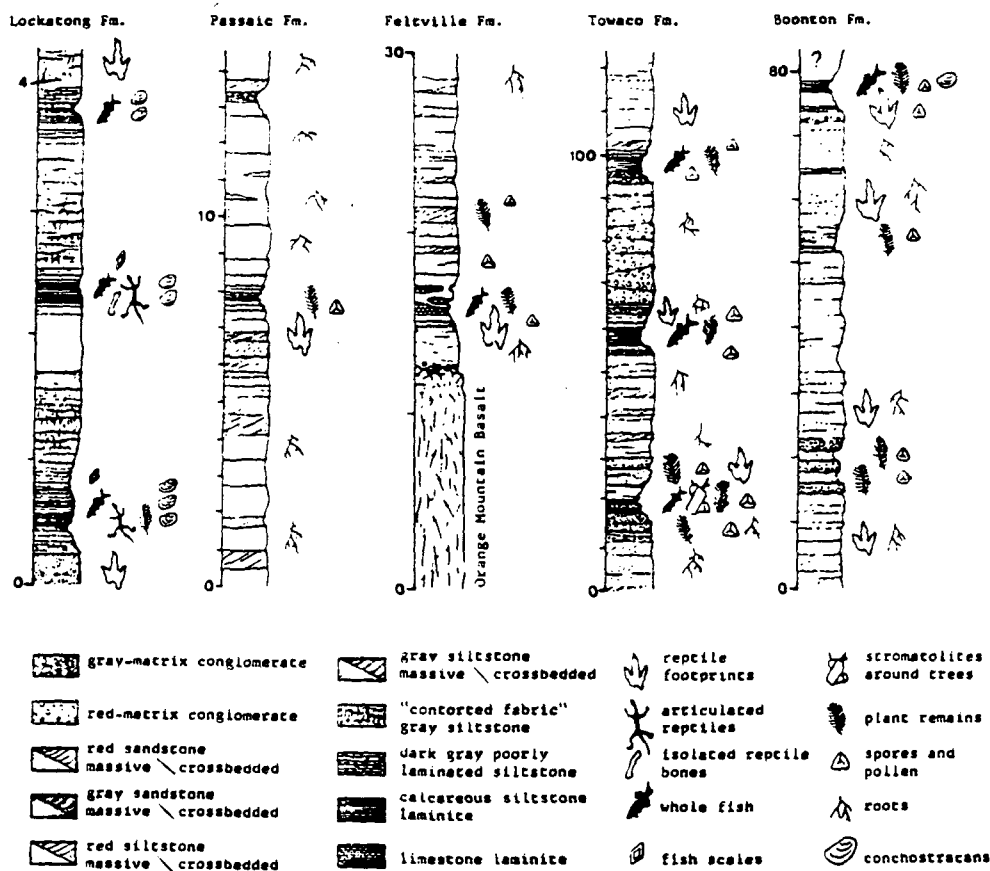


FIG. 3. Major types of sedimentary cycles of the formations of the Newark Basin. Note that the approximate center of the symbols for the major types of fossils is placed about where they occur in the section to the left. Note the change in scale (in meters) from section to section.

Lockatong Formation section measured at Kings Bluff, Weehawken, New Jersey, and represents three detrital cycles. The Passaic Formation section measured along Nishisakawick Creek and Little Nishisakawick Creek, northeast of Frenchtown, New Jersey; the two cycles shown represent the lower portion of McLaughlin's Graters Member (i.e., Member G) and are characteristic of most of the detrital cycles of the Passaic Formation. The upper cycle develops a dark gray siltstone a kilometer to the south. Feltville Formation section measured along East Branch of Middle Brook, Martinsville, New Jersey — there is only one such "cycle" in the Feltville Formation. Towaco Formation section measured along stream 2 km southwest of Oakland, New Jersey; three cycles are shown. Boonton Formation section is upper part of type section (see Figure 12); section not clearly cyclic.

compo-  
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s (1959)  
Basin and  
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Guide. In this way, nominal status is given to beds critical to the overall pattern of Newark Basin historical geology.

### DESCRIPTIVE STRATIGRAPHY OF THE POST-LOCKATONG FORMATIONS

#### *The Passaic Formation*

The name Passaic Formation is proposed for the predominantly red siltstone, sandstone, and conglomerate which conformably overlie the Lockatong Formation and which underlie the Orange Mountain and Jacksonwald basalts. It is equivalent to the pre-basalt part of Kümmel's Brunswick Formation (Table 1). The type section (Figure 4) consists of intermittent exposures

of red siltstone and sandstone along interstate Route 80 near Passaic, New Jersey (Figure 2 and Appendix).

As is the case for all Newark formations, the estimation of stratigraphic thicknesses in the Passaic Formation is hampered by the presence of a series of faults with variable amounts of dip-slip displacement cutting much of the Newark Basin. The exact distribution of these faults is poorly known and thus many trigonometrically computed thicknesses in the Passaic Formation are probably overestimations. This is especially true in the northern and southern portions of the Newark Basin. The field relationship of mapped gray siltstones in the central Newark Basin, however, shows that in broad areas these smaller faults are missing and the calculated stratigraphic thickness is probably correct (McLaughlin, 1943). Instead of a large number of small faults, the central Newark Basin is cut by several very large faults (Figure 2).

In spite of these mensuration problems, it is clear that the Passaic Formation is the thickest, coherent lithologic unit in the Newark Basin, reaching a maximum calculated stratigraphic thickness of over 6,000 m (Jacksonwald Syncline). The formation outcrops throughout the Newark Basin although its upper beds are preserved only in the Watchung Syncline (Figure 2), in the smaller synclines preserved along the eastern side of the Flemington Fault, and in the Jacksonwald Syncline. In all other areas, the upper Passaic Formation has been removed by post-Newark erosion.

While in most areas the Passaic Formation rests conformably on Lockatong Formation, in several areas on the western margin of the Newark Basin, the Passaic directly onlaps the step-faulted basement without any intervening Stockton or Lockatong. In these areas (see Figure 5), the thickness of upper Passaic Formation present below the Orange Mountain Basalt is comparatively slight. One area where these relationships can be clearly seen is near Cushetunk Mountain (Figure 5) in central New Jersey. In the New Germantown Syncline, the stratigraphic distance from the Palaeozoic basement to the Orange Mountain Basalt is about 800 m. Less than 30 km to the southwest, over 1,000 m of Passaic is

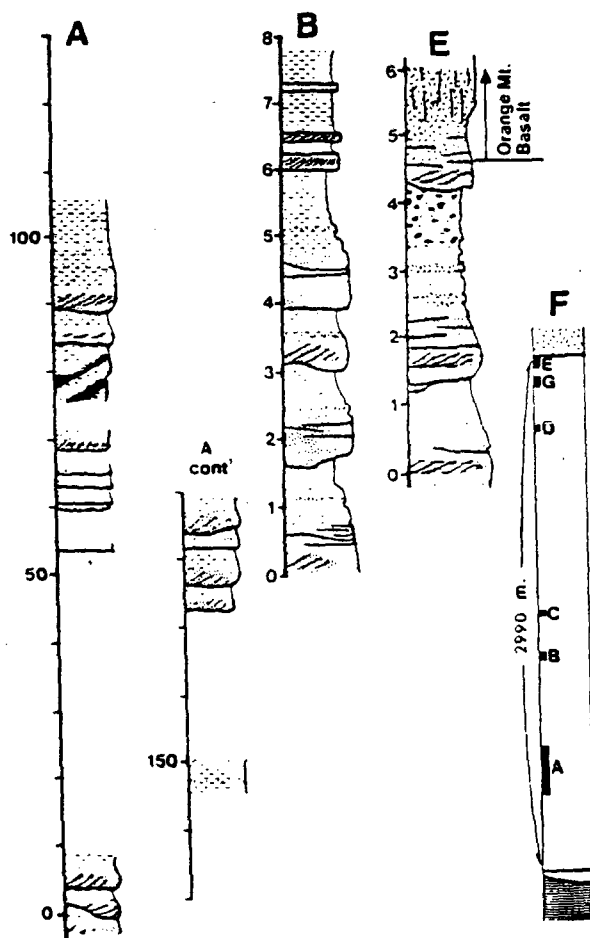


FIG. 4. A - E, type section of Passaic Formation (see Appendix for description); F, diagram showing positions of sections A - E in Passaic Formation.

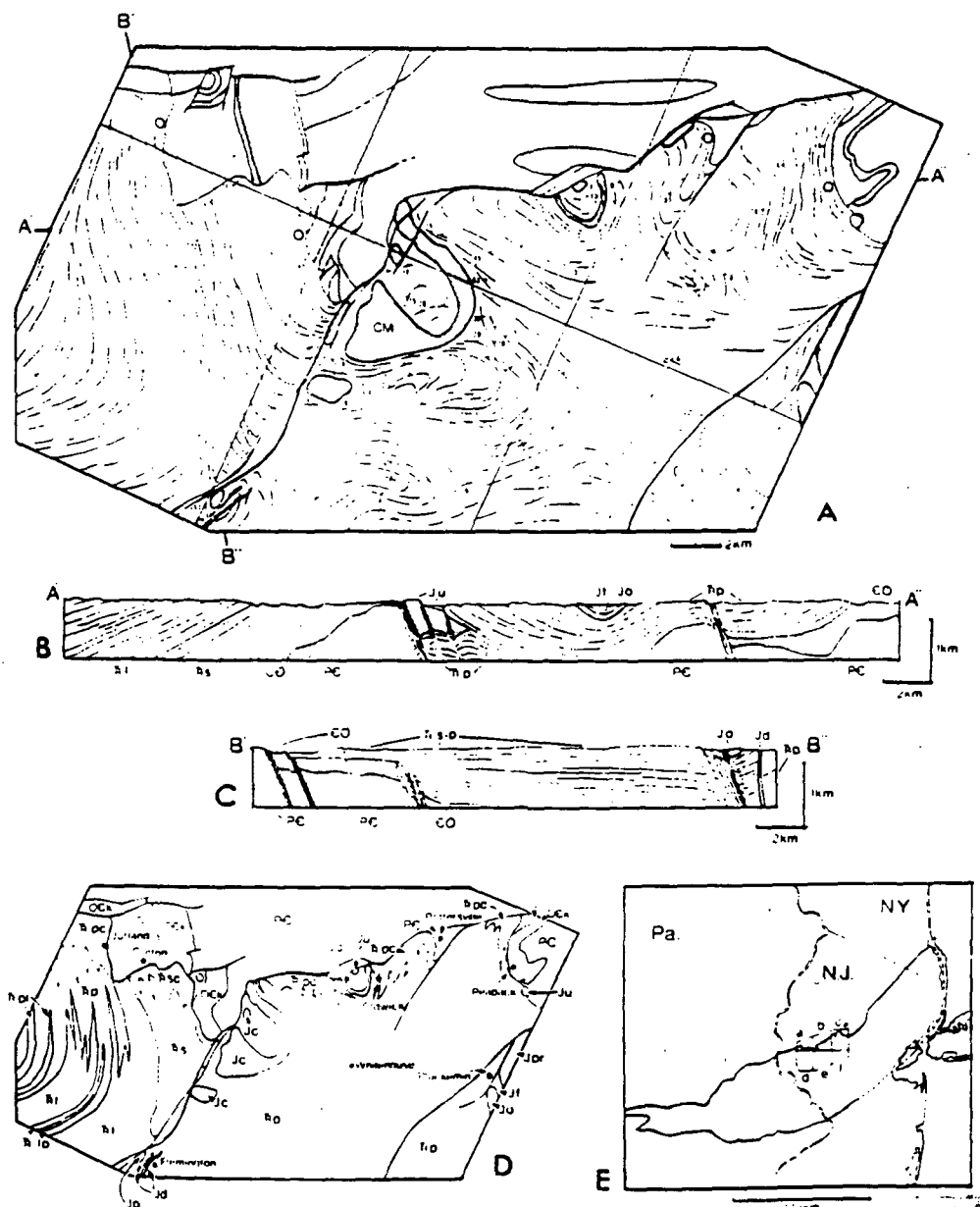


FIG. 5. Cushtunk Mountain area: A. map showing strike lines, degree of dip, major faults and onlaps (o) — diabase and basalt represented by dark gray shading while light gray shading represents Palaeozoic and PreCambrian basement rocks — CM is Cushtunk Mountain; B. cross section of area in A (above) along line A'-A" — note vertical exaggeration: C. section of area in A (above) along B'-B": D. geologic map of Cushtunk Mountain area (Oek, Cambrian and Ordovician sedimentary rocks of the Kittatinny carbonate terrane) O, allochthonous pelitic and minor carbonate rocks; eO, combined Oek and O; Pe, Precambrian crystalline rocks; T lp, tongues of Triassic Passaic Formation lithology within main mass of Lockatong Formation; T pc, Triassic Passaic Formation, conglomeratic facies; T p, Triassic Passaic Formation; T pl, Triassic Passaic Formation, Lockatong-like clusters of detrital sedimentary cycles; T s, Triassic Stockton Formation; T sc, Triassic Stockton Formation, a conglomeratic facies identical to T pc; Jf, Jurassic Feltville Formation; Jc, Jurassic Cushtunk Mountain Formation.

present above 2,000 m of Stockton plus Lockatong, and in the latter area the top of the Passaic Formation is not preserved. In less well exposed areas, or where the strike parallels the basin margin, such onlap and step-faulted relationships cannot be observed without geophysical techniques or analysis of well records (McLaughlin, 1943, 1944; Dunleavy, 1975).

Facies patterns of the Passaic Formation are a modified continuation of those of the Lockatong, and different from all younger Newark Basin deposits. Laterally persistent and periodically spaced clusters of gray and black siltstone cycles characterize both formations, the Lockatong being composed almost entirely of such repetitive units (see Figure 3). According to Van Houten (1962, 1964, 1965, 1969), the great majority of the Lockatong cycles fall into two broad classes which he terms chemical and detrital (Figure 3). The most laterally continuous are detrital and these generally occur in bundles. Each bundle is separated from the next (in vertical succession) by a series of chemical cycles; the distance from the center of one detrital cycle bundle to the next being about 110-125 m in the central Newark Basin (Van Houten, 1969). This figure decreases to the basin margins. Chemical cycles are characterized by the presence of abundant analcime and are for the most part restricted to the center of the basin, giving way in all directions to red clastics. The lateral edges of the Lockatong thus consist of bundles of detrital cycles separated by red siltstone and sandstone. It follows that the boundary between the Passaic Formation and the Lockatong can be operationally defined (both horizontally and vertically) as where the thicknesses of beds of red clastics dominate gray and black. It further follows that where gray and black detrital cycle clusters do not occur, as in Rockland County, New York, the Passaic Formation rests directly on the Stockton.

Bundles of detrital cycles occur through most of the thickness of the Passaic Formation, peri-

odically spaced, as in the Lockatong. The great majority of these cyclic non-red units, however, are not as laterally continuous as those of at least the lower Lockatong, and generally the number of cycles involved in these clusters decrease in frequency through the Passaic Formation. For the lower and middle Passaic, McLaughlin (1933, 1943, 1945, 1946, 1948) has succeeded in mapping out the distribution of these non-red units over most of the central Newark Basin. A detailed stratigraphic framework has developed around these beds, each detrital cycle bundle being designated by a letter (A, B, C, . . .). The extension of McLaughlin's units outside of the areas he mapped is a principle aim of ongoing research (Figure 2).

The highest of McLaughlin's mapped units (134 m above members L and M) join with other cycles to the southwest to form a large body of gray and black siltstone called the Perkasio Member (McLaughlin, 1946). Unlike the Lockatong Formation, however, the thickest section of the Perkasio Member is in the southwestern portion of the Newark Basin rather than near its geographic center. Due to repetition by major faults (Figure 2) and changes in strike along folds, the broader aspects of the three-dimensional relationships of most Passaic dark clastic units can be observed. Looking over the bulk of the Passaic Formation (Figure 2), there is no evidence that the rest of the detrital cycle clusters of the Passaic (i.e., other than lateral equivalents of the Lockatong Formation or Perkasio Member) represent the remnants of a large, now eroded, gray and black siltstone body as Glaeser (1963) has suggested.

There are major masses of red-matrix conglomerate at both the northern and southern ends of the Newark Basin (Figure 2). These grade nearly imperceptibly into the red clastics of the Passaic Formation and are here considered facies of it. Other much smaller areas of conglomerate occur along the western border of the Newark Basin; these are especially prevalent where Passaic

Diabase: Jd, Jurassic diabase dikes; Jo, Jurassic Orange Mountain Basalt; Jpr, Jurassic Preakness Mountain Basalt; Ju, Jurassic basalt, undefined; E, geographic position and quadrangle maps of Cushtunk Mountain area (a, High Bridge Quadrangle; b, Califon Quadrangle; c, Gladstone Quadrangle; d, Pittstown Quadrangle; e, Flemington Quadrangle; f, Raritan Quadrangle).

Formation onlaps basement rocks (Figures 2 and 5).

A point of general applicability to perhaps most Newark Supergroup deposits and particularly relevant to Passaic Formation conglomerates is the lack of objective lithologic distinction between basal and border conglomerates. The small bodies of conglomerate present along the western border of the Newark Basin (so called fanglomerates) have traditionally been interpreted as genetically related to the presence of border faults and the presence of such conglomerates was often used as evidence for the faults themselves (Russell, 1922; Barrell, 1915; Sanders, 1963; Van Houten, 1969). It appears from relations presented in Figure 5 and geophysical evidence (Dunleavy, 1975) that many of these "border conglomerates" are in fact basal (see Sanders, 1974 and Faill, 1973). Conglomerates present in the basal Stockton Formation in the same area (west of Cushetunk Mountain, Figure 5) are lithologically indistinguishable from these Passaic conglomerates. The relationship of these conglomerates to the inferred syndepositional topography of the basin is not at all obvious and, thus, for the present, interpretive designations such as fanglomerate, basal conglomerate, and border conglomerate should probably be avoided.

Massive diabase intrusions are implaced through the upper Passaic Formation in the west central portions of the Newark Basin and in the lower Passaic Formation in the northern Newark Basin. These intrusions generally parallel the distribution of major bodies of gray and black siltstone: thus, the largest intrusions are broadly concordant (but locally discordant) with the Lockatong Formation (i.e., Palisades, Rocky Hill, and Sourland Mountain Sills) or the Perkasio Member of the Passaic (Haycock Mountain, Coffman Hill, and possibly Cushetunk Mountain diabases; see Figure 5). The general pattern seems to be for these intrusions to be implaced progressively higher in the Newark Basin section from east to west.

The Passaic Formation, like most Newark Supergroup deposits, is cut by a series of narrow, often nearly straight and vertical diabase dikes trending north and northeast. The mapping of

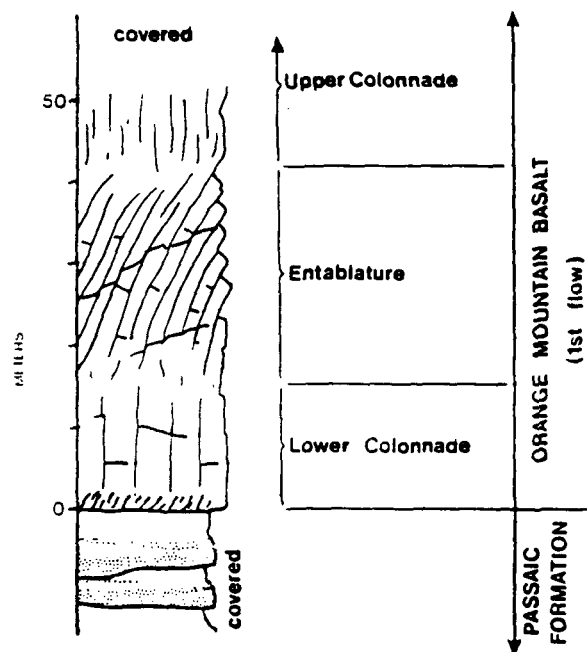


FIG. 6. Type section of the Orange Mountain Basalt; exposure along Interstate Route 280 in East Orange, New Jersey. In Passaic Formation, stipple represents red sandstone and plain area represents red sandstone.

the distribution of these intrusives is still very incomplete.

#### *Orange Mountain Basalt*

Orange Mountain is the local name of the First Watchung Mountain in Essex County, New Jersey, long known for its spectacular exposures of columnar basalt (Cook, 1884); the name Orange Mountain is, therefore, suggested for these multiple (at least two), tholeiitic, basalt flows and interbedded volcanoclastic units above the Passaic Formation and below the Feltville Formation. The type section, exposing about 40% (50 m) of the formation's total thickness, is along Interstate Route 280 at its cut through Orange Mountain in East Orange, New Jersey (Figure 7). According to Puffer and Lechler (1980) the Orange Mountain Basalt belongs to the high-TiO<sub>2</sub> type of basalt of Weigand and Ragland (1970) and is chemically very similar to the Palisade Diabase.

The Orange Mountain Basalt is the oldest Newark Basin Formation thought to be wholly

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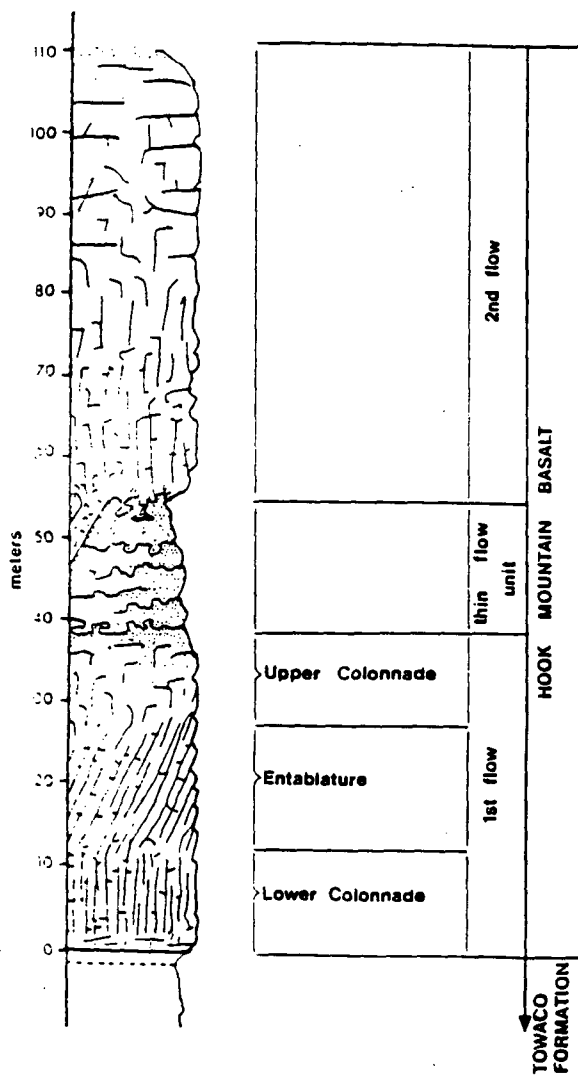


FIG. 11. Type section of the Hook Mountain Basalt. Note two major flow units and interbedded thin pahoehoe flows and possible feeder dike. Section exposed along Interstate Route 80 near Pine Brook, New Jersey.

The uppermost cycle is well exposed in the Roseland Quarry. Formerly another cycle was exposed in an adjacent area (Olsen, 1975), and yet another was located in a nearby well boring. In total, six successive cycles have been identified in the upper half of the Towaco Formation, and most of these have been traced throughout the Watchung Syncline.

There is a thin brown volcanoclastic unit at the top of the Towaco Formation. It is about 1 m thick and occurs at most exposures of the upper

Towaco Formation from at least Pompton to Roseland. It is especially well exposed at the Towaco type exposure. Lewis (1908) described unweathered samples of this unit and noted that it consists of altered volcanic glass with inclusions of feldspar and augite and pseudomorphs after olivine in a matrix of brown radial natrolite. Small blocks of vesicular basalt are occasionally present and at Pompton very thin vesicular "flow breccias" are included in the unit (Faust, 1978).

#### The Hook Mountain Basalt

The uppermost extrusive volcanic unit in the Watchung Syncline is here formally designated the Hook Mountain Basalt (Baird and Take,

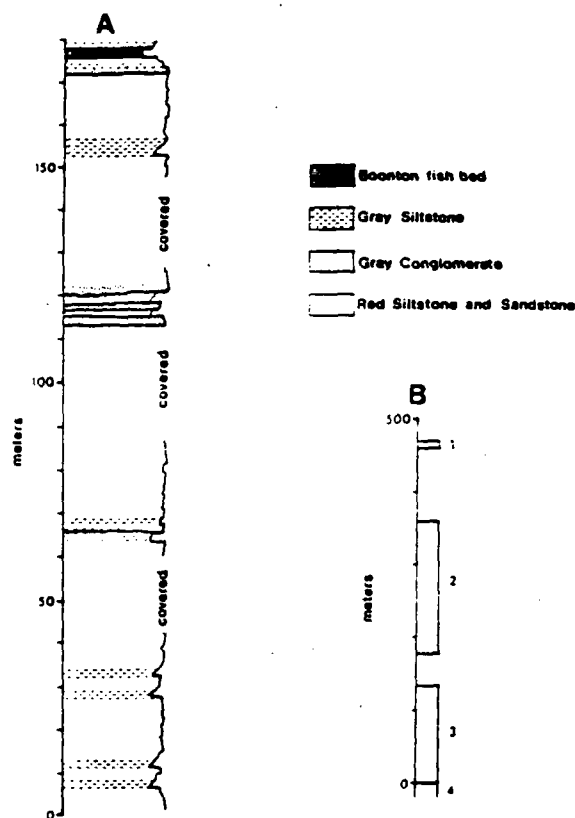


FIG. 12. Type section of the Boonton Formation; A, section exposed along Rockaway River in Boonton, New Jersey; B, composite section of entire preserved Boonton Formation — 1, red matrix conglomerate exposed at Chestnut Hill, Morristown, New Jersey, 2, beds making up the type section, 3, gray, black, brown and red siltstones exposed near Bernardsville, New Jersey, 4, Hook Mountain Basalt.

1959). This formation takes its name from the location of the type section (Figure 12) which cuts along Hook Mountain Road and Interstate Route 80 through the southern terminus of Hook Mountain near Pine Brook, New Jersey. About 80% of the total formation is exposed here. The Hook Mountain Basalt differs markedly in trace element composition from the older basalt formations of the Newark Basin with half as much  $K_2O$  and Sr, 20% less Rb, and with a much greater FeO/MgO ratio than the Orange Mountain Basalt (Puffer and Lechler, 1980).

The Hook Mountain Basalt is the thinnest of the three major extrusive formations of the Newark Basin; at its type section it is 110 m thick and it retains this thickness throughout the Watchung Syncline. There are gaps in the ridge made by this basalt between Hook Mountain and Riker Hill, and Riker Hill and Long Hill (see Figure 2). That the basalt extends subsurface across these gaps is shown by the bedrock topography as mapped by Nichols (1968) and aeromagnetic data (Henderson, et al., 1966). The maps of Lewis and Kümmel (1910-1912) and all maps since have omitted the Hook Mountain Basalt in the town of Bernardsville, New Jersey, and this is corrected here (Figure 2).

Two flows have been recognized through most of the Watchung Syncline. At the type section, the lower flow is 57 m thick and shows a complete Tomkeiff structural sequence (Figure 12), while the upper flow is 40 m thick but more massive, without clear columnar jointing. As is the case for the flows which make up the two older basalt formations of the Newark Basin, it is not definitely known whether the upper and lower flows of the Hook Mountain Basalt represent continuous sheets over the extent of the whole formation.

#### *The Boonton Formation*

Overlying the Hook Mountain Basalt are sedimentary rocks (Baird and Take, 1959) termed the Boonton and Whitehall beds of the Brunswick Formation. The formal name Boonton Formation is suggested for these beds, the type exposure (Figure 13) being along the Rockaway River near Boonton, New Jersey. The Boonton For-

mation is the youngest sedimentary unit in the Newark Basin and consists of at least 500 m of red, brown, gray, and black fine-to-coarse clastics and minor evaporitic beds.

The stratigraphically lowest beds in the Boonton Formation are well exposed near Bernardsville, New Jersey. Here the formation consists of blocky to finely bedded red, gray, brown, and black, often dolomitic, siltstone. Thin (1-4 m) beds riddled with "hopper casts" (pseudomorphs after gypsum, glauberite, and ?halite) are common in sequences of all colors. The different colors or textures of beds do not seem to be arranged in any obvious or consistent cyclic pattern and do not resemble other units in the Newark Basin. Stratigraphically above these beds is a sequence of well bedded red siltstones and sandstone beds (mean thickness 35 m) alternating with thinner beds of gray and gray-green siltstones (mean thickness 2 m). The longest continuous section of these beds is the type section (Figures 3 and 12). The uppermost beds at the type section include a fossil fish-bearing calcareous gray siltstone laminite at least 1 m thick. This is the famous Boonton Fish Bed (Smith, 1900; Schaeffer and McDonald, 1978). Also in this section are gray and brown conglomerate units up to 0.5 m thick. Along the western edge of the Watchung Syncline the Boonton Formation contains thick sequences of red- and gray-matrix conglomerate and breccia. The relationship of these units to the finer portions of the formation is unclear.

#### NOTES ON THE STRUCTURAL GEOLOGY OF THE NEWARK BASIN

There are very few generalities which can be applied with confidence to Newark Basin structure. It is generally conceded, however, that: 1, Newark sediments rest with a profound unconformity on the basement rocks; 2, Newark rocks are overlain with an angular unconformity by post-Jurassic rocks; 3, most Newark beds dip to the northwest 10° - 20°; 4, there are a series of faults of large displacement which cut the Newark deposits into a series of major fault blocks; 5, there are at least some smaller faults; 6, beds of the west side of fault blocks tend to be folded into a series of anticlines and synclines with their axes perpendicular to the long axes of fault



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will serve as a reference standard for comparison with other early Mesozoic areas.

The basic biostratigraphic framework for Newark Basin deposits has been outlined by Olsen and Galton (1977) and Cornet (1977) and the details of this correlation will be given elsewhere (Olsen, McCune, and Thomson, in press; Olsen, Baird, and Salvia, MS; and Colbert and Olsen, MS). At this time it is necessary to present the distribution of taxa within the Passaic through Boonton formations and tie these in with the regional correlation (Figure 15).

For regional correlation, relatively strong emphasis has been placed on the distribution of palynomorph taxa (Cornet, 1977, and pers. comm.). This reliance has been especially strong for correlation between the upper Newark and the European Early Jurassic (see Figure 15). Tetrapod data, both in the form of skeletal remains and footprints, parallel the palynomorph data, and have been essential in correlating regions from which floral data is not available (such as the upper Stormberg — J. M. Anderson, pers. comm.). For fine internal correlation of the Early Jurassic portions of the Newark, however, the biostratigraphic subdivisions based on pollen and spores have proved too broad (Cornet, 1977). In these areas, fossil fish have provided a means of correlation (Olsen, McCune, and Thomson, in press).

The broad aspects of this biostratigraphic correlation are in agreement with most geophysical data, significantly the paleomagnetic work of McIntosh (1976) and Reeve and Helsley (1972) on the Newark Basin section and the Chinle Formation (southwestern United States), as well as with the paleomagnetic work of DeBoer (1968). In addition, radiometric dates available for Newark Basin basalts are in agreement with a Jurassic age for these units (Armstrong and Besancon, 1970; Dallmeyer, 1975; Sutter and Smith, 1979; W. D. Masterson and K. K. Turekian, pers. comm.). It must be noted, however, that the geophysical techniques used to date may be too inconsistent for the data to be used in fine scale correlation among the various individual formations of the Newark Supergroup.

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## APPENDIX

### Type Section of the Passaic Formation

Thickness (m)	Description
Section A	Base of section A is 427 m above and 3.4 km west of last exposures of Lockatong along Rt. 80 (all sections measured from top down).
1.2	red blocky siltstone
1.8	red massive feldspathic sandstone
.6	red siltstone
1.2	red massive feldspathic sandstone, fining-upwards
3.1	red blocky siltstone
3.0	red fine feldspathic sandstone, fining-upwards
1.5	red blocky siltstone
1.8	red cross-bedded feldspathic sandstone, fining-upwards
26.0	covered
4.6	red siltstone
41.0	covered
6.1	red fissile siltstone
4.6	red interbedded sandstone and siltstone
3.0	red siltstone
0.6	red feldspathic sandstone, fining-upwards
0.3	red blocky siltstone
1.8	red feldspathic sandstone, white near diabase, fining upwards
1.5	diabase dike
+3	red blocky siltstone, black near diabase
5.0	covered

Thickness (m)	Description
.9	red cross-bedded sandstone and siltstone, fining-upwards
.8	red planer, thin-bedded sandstone
4.0	covered
4.6	red interbedded siltstone and sandstone
2.0	covered
1.2	red burrowed sandstone and siltstone
48.0	covered
.8	red blocky siltstone
1.5	red feldspathic sandstone, strongly downcutting, fining-upwards
3.4	red blocky siltstone
.7	red feldspathic sandstone, fining-upwards, deeply downcutting
.3	red blocky siltstone, covered in places
+1	red fine feldspathic sandstone
<b>Section B</b>	<b>Base of exposure 488 m above and 3.4 km west of top of section A, along Rt. 80 (section measured from top down).</b>
.61	red fissile siltstone
.15	yellow-orange planer-bedded coarse siltstone
.91	red blocky siltstone
.15	yellow-orange cross-bedded base, planer-bedded top, fine sandstone
.20	red blocky siltstone
.30	yellow-orange cross-bedded base, planer-bedded top, fine sandstone
.90	red fissile siltstone
.93	red blocky siltstone, fining-upwards
.32	red fissile siltstone
.60	red siltstone
.76	red fissile siltstone
.60	red coarse feldspathic sandstone, fining-upwards
.30	red blocky siltstone
1.32	red very fine sandstone, fining-upwards
+1.52	red blocky siltstone
<b>Section C</b>	<b>Base of exposure 244 m above and 1.8 km west of top of section B, along Rt. 80 (sections measured from top down).</b>
1.5	red, very irregular, trough cross-bedded sandstone grading upwards into siltstones, laminated carbonate-rich oblong chips and concentric accretions at base
1.5	same as above
<b>Section D</b>	<b>Base of exposure 1320 m above and 6.9 km west of top of section C (section measured from top down).</b>
3.0	red massive, cross-bedded sandstone
<b>Section E</b>	<b>Base of exposure 554 m above and 2.9 km west of top of section D (section measured from top down).</b>
+10.0	massive basalt — base of Orange Mountain Basalt
.9	brown massive sandstone welded to basalt
1.8	red siltstone with numerous small carbonate nodules
.93	red siltstone
1.5	red sandstone, fining-upwards

Type section of the Feltville Formation and key to figure 7. Section exposed along Blue Brook about 1 km southwest of the dam for Lake Surprise in Watchung Reservation, Union County, New Jersey (sections measured from top down).

Unit letter in Figure 7	Thickness (m)	Description
Section A of Figure 7		
a	+1	buff to pink, cross and planer-bedded feldspathic sandstone with interbeds of red siltstone upward grading into
b	+1	red siltstone in thin beds, upper contact sharp
c	+1	same as unit a
d	+1	same as unit b
e	9	< 1 meter thick beds of buff and red sandstone, grading upwards into red blocky siltstone
f	1.5	beds of red siltstone and sandstone with varying amounts of basalt breccia
Section B of Figure 7		
a	.5	greenish-red, slightly micaceous with small scale ripple-bedded siltstone
b	.05	gray, aphanitic, calcareous siltstone
c	.08	same as above with a thin unit of red siltstone between it and unit b
d	.25	red and green, fine bedded siltstone
e	.20	reddish green fine bedded siltstone
f	.05	gray indistinctly bedded very calcareous siltstone
g	.02	gray well bedded calcareous siltstone
h	.08	gray well bedded limestone laminae alternating with siltstone to form 5 mm thick couplets. <i>Semionotus</i> common
i	.06	gray aphanitic limestone
j	.05	gray graded beds (1010 mm) of calcareous siltstone
k	.05	similar to unit h, but couplets 2-3 mm. <i>Semionotus</i> common
l	.06	similar to above but more silty
m	.08	gray laminated siltstone with limestone laminae present occasionally
n	.46	mottled gray and red clayey siltstone with thin fossil roots. Palyniferous (W. B. Cornet, pers. comm.)
o	.03	gray coarse siltstone
p	.18	gray small scale cross-bedded coarse siltstone with numerous natural casts of reptile footprints on lower contact
q	.18	gray ripple-bedded fine siltstone with numerous reptile footprints
r	.31	gray ripple-bedded coarse siltstone grading into unit q. Reptile footprints common.
s	.08	same as p
t	.14	gray and reddish siltstone with numerous reptile footprints
u	.44	red and gray claystone
v	.05	gray and red siltstone with large dinosaur footprints
w	.13	gray and red siltstone with numerous reptile footprints

Type Section of the Towaco Formation  
(measured from top down)  
(see Figure 11)

Basal Hook Mountain Basalt and cycle A of Towaco Formation exposed in the "Dinosaur Tract" of the Essex County Park Commission adjacent to the "Nob Hill" condominium project, where cycle B and the upper part of cycle C were exposed prior to 1977 (Olsen, 1975). All these exposures were part of the Roseland Quarry, Roseland, New Jersey.

Unit letter from Figure 16	Thickness	Description
Hook Mountain Basalt, 1st flow	35.0	Tholeiitic Basalt. Massive at base, columnar jointed in middle, vesicular at top.
Towaco Formation Volcanoclastic bed		
a	.9	Brown, badly weathered palagonitic unit consisting of shards of altered glass in a matrix of brown radial natrolite when fresh.
Upper Cycle (A)		
b	.5	Light gray and lavender siltstone, locally laminated with small scale cross-bedding. May contain volcanoclastic component.
c	1.2	Dark lavender and maroon siltstone with small scale crossbedding. Small orange crystals (weathered) along fracture planes.
d	1.8	Deep red, hard siltstone grading into units above and below. Contains one fining-upwards cycle with reptile footprints common.
e	29.3	10 red fining-upwards cycles, each a mean of 2.9 m thick and composed of thick beds of red sandstone or coarse siltstone with prominent slip-off surfaces grading up into beds of ripple-bedded siltstone and blocky siltstone. Lowest cycle contains buff intraformational breccia with coprolites, reptile bone fragments, and fish scales. Lower cycles contain numerous calcareous lenticular concretions most common in coarse parts of cycles. Fine parts of middle cycles contain numerous small dolomitic concretions and deep mud cracks. Reptile footprints common in lower and upper cycles, as are root casts.
f	3.4	Gray and buff fining-upwards cycles consisting of a lower, cross-bedded sandstone grading up into lavender and gray siltstone. Reptile footprints and carbonized plants common.
g	1.1	Gray-green fine siltstone massive and indistinctly bedded. Small bits of carbonized stems and leafy twigs common. Palyniferous (Cornet, 1977).
h	.6	Dark to light gray, very fine and fine siltstone with massive to fine bedding and local lead casts and gypsum crystal impressions. Good plant fragments including several conifer species, <i>Semionotus</i> scales and bones, and a single beetle elytron.
i	.4	Black, slickensided very fine siltstone with common chert nodules with a globular fabric.
j	.2	Black laminate. Black carbonaceous siltstone and white carbonate couplets .42 mm thick. Upper part of unit has several 5 mm thick graded, black siltstone layers. Grades into unit i.
k	.3	Light gray clayey siltstone, soft with black laminae becoming common upwards. Grades into unit j.
l	2.5	Gray fining-upward cycle composed of a lower cross-bedded sandstone containing numerous tree limbs, branches and roots grading upwards into a fine, well-bedded siltstone, locally ripple-bedded with numerous reptile footprints. Uppermost portion contains gray-green massive siltstone.
m	.9	Gray-buff, well bedded siltstone with dinosaur footprints and plant roots preserved both as carbonized impressions and natural casts.
Cycle B		
n	4.2	Red, thick fining-upward cycle. Lower part consists of thick beds of red sandstone with slip-off surfaces, local intraformational conglomerates and natural casts of large tree limbs or roots and a possible large reptile jaw. Middle part composed of 5 cm ± fine graded beds with very rare bone fragments and dinosaur teeth and exceptionally good reptile footprints. Plant fragments common and preserved as impressions or natural casts. Upper part is fine siltstone and plant remains present either as natural casts or carbonized compressions surrounded by gray-green halos. Grades upward into unit m.



Unit letter from Figure 16	Thickness	Description
All but the top of the following are no longer exposed.		
o	16.8	6. red fining-upwards cycles. Each cycle similar to unit n but a mean thickness of less than 1 meter. Middle 3 cycles contain numerous round dolomitic concretions and deep mudcracks in the fine portions. Reptile footprints common; plant remains (twigs and roots) present as impressions and natural casts.
p	5.2	2 or 3 gray fining-upwards cycles pinching out to the south where only one remains. Lower part of cycle consists of gray and buff cross-bedded sandstone grading upward into fine gray-blue or gray-green siltstone. Uppermost cycle composed of gray sandstones and red siltstones. Plant remains common as carbonized compressions. fine units palyniferous and reptile footprints common.
q	.8	Basal portion is a laminate composed of laminae of dark organic-rich siltstone alternating with light carbonate laminae forming couplets 0.4 mm thick. Upper part of laminate has 5 mm black graded beds. Upper part of unit consists of beds of graded sandstones and siltstones with minor intratortional conglomerate made up of the laminite. <i>Semionotus</i> abundantly preserved as articulated compressions in laminite and in three dimensions in the sandstones. Carbonized plant compressions common.
r	.2	Black indistinctly-bedded siltstone. Gradational with unit s.
s	4.9	Olive massive slurred and convoluted bedded coarse poorly sorted siltstones grading upwards into poorly bedded gray-blue siltstones with numerous clasts of unit t throughout. Some recumbent folds over a meter between limbs.
t	.5	Black laminite very similar to laminite of unit q but without <i>Semionotus</i> .
u	.6	Light gray or buff clayey siltstone grading into units t and v. Black laminae common upward.
v	3.0	Gray fining-upwards cycle composed of basal coarse, cross-bedded siltstone grading up into fine siltstone. Carbonized fragments of plants present.
w	1.0	Gray small-scale cross-bedded siltstone, grades downward into unit x.
Cycle C		
X	4.3	Red small-scale cross-bedded siltstone.

Table 6

## Type section of the Boonton Formation

Top of section exposed just east of the dam for the Jersey City Reservoir in Boonton, New Jersey. Section measured from top down (see Figure 20).

Thickness (m)	Description
+1	Gray coarse to fine siltstone and sandstone (now covered)
+1	Gray laminite composed of laminae of gray siltstone alternating with laminae of carbonate forming couplets of a mean of 2.5 mm. Unit also contains coarse to fine graded siltstones 1 mm to 2.5 cm thick. Fossil fish of 4 genera (see Figure 15) present along with numerous carbonized plant compressions and conchostracans. This is the famous Boonton Fish Bed (unit now covered).
.5	Gray clayey siltstone with common carbonized plant compressions (mostly conifers). Unit palyniferous (Cornet, 1977).
1.2	Gray fining-upwards cycle made up of coarse to fine cross-bedded sandstone grading up into small-scale cross-bedded siltstone. Reptile footprints common.
15.7	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
3.4	Gray coarse siltstone grading up into fine gray siltstone. Carbonized plant compressions present. Unit palyniferous.
+5	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions present.
ca.20	covered

## NEWARK BASIN

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Thickness (m)	Description
+5	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common (mostly covered).
1.1	Gray fine sandstone to fine conglomerate. Cross-bedded (tongue of Morristown facies).
2.6	Gray clayey siltstone with carbonized plant fragments.
1.4	Gray fine sandstone to conglomerate, cross-bedded with fine siltstone interbeds and carbonized plant fragments (tongue of Morristown facies).
1.6	Gray clayey siltstone with groove casts. Carbonized plant remains present.
+1.5	Gray sandstone and conglomerate, cross-bedded (tongue of Morristown facies).
ca.30	covered
+17.0	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
.9	Red and gray fine siltstone.
.9	Gray fine siltstone.
1.4	Gray fine sandstone and coarse siltstone: small-scale cross-bedding and carbonized plant fragments present.
+ .9	Gray fine siltstone with carbonized plant fragments.
ca.20	covered
+7.9	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
1.5	Gray fine siltstone with carbonized plant fragments.
3.1	Red siltstone with dolomitic concretions and small-scale cross-bedding.
ca.1	Gray fine siltstone (poorly exposed).
13.8	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions present.
ca.1	Gray fine siltstone (poorly exposed).
1.5	Red siltstone with small-scale cross-bedding.
.8	Gray coarsening upwards siltstone.
6.1	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding and dolomitic concretions common.

**REFERENCE NO. 33**

STATE OF NEW JERSEY  
DEPARTMENT OF CONSERVATION  
AND ECONOMIC DEVELOPMENT

DIVISION OF WATER POLICY  
AND SUPPLY



SPECIAL REPORT NO. 28

GROUND-WATER RESOURCES OF  
ESSEX COUNTY, NEW JERSEY

Prepared in cooperation with  
United States Department of the Interior  
Geological Survey

1968

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**LETTER OF TRANSMITTAL**

HONORABLE ROBERT A. ROE, *Commissioner*  
Department of Conservation and  
Economic Development  
John Fitch Plaza  
Trenton, New Jersey

Dear Sir:

I am transmitting a report entitled "Ground Water Resources of Essex County, New Jersey," which was completed by the Ground Water Branch, Water Resources Division, U. S. Geological Survey, in cooperation with the New Jersey Division of Water Policy and Supply, as part of the state-wide program authorized by the 1958 Water Supply Law.

The report evaluates the relative importance of the aquifers of Essex County as to their present use and suitability for future development. It indicates which areas are being overpumped and those areas where further ground water exploration would be profitable.

The information in this report is of vital interest and importance to the growth of the county and provides a basis for the protection and safe development of the ground water resources essential for such growth. I, therefore, recommend that this report be published as a Special Report of the Division of Water Policy and Supply.

Respectfully submitted,  
George R. Shanklin  
Director and Chief Engineer

September 9, 1968

## GROUND-WATER RESOURCES OF ESSEX COUNTY, NEW JERSEY

By WILLIAM D. NICHOLS

### ABSTRACT

Ground water in Essex County occurs in joints and fractures in consolidated rocks and in the voids of unconsolidated stratified drift deposits. Wells in sandstone and shale of the Brunswick Formation of Triassic age yield from 35 to 820 gpm; the most productive water-bearing zones are commonly between depths of 300 to 400 feet. Drawdown due to pumping is greatest in the direction of strike of the formation (about N 30° E in Essex County) and least in the direction perpendicular to strike. Wells in the Watchung basalt, which is intercalated with rocks of the Brunswick Formation commonly yield small to moderate supplies but may occasionally yield up to 400 gpm. Large yields, ranging from 410 to 1,593 gpm, are common from wells tapping the stratified drift deposits in the western part of the county.

Quality of ground water is acceptable for most uses throughout the county. However, heavy pumpage in the Newark area has lowered water levels to more than 100 feet below sea level. The low water levels have reversed the natural gradient and induced the flow of salt water into the bedrock aquifer, seriously impairing ground-water quality there. Recent analyses of ground-water samples from Newark indicate that the chloride concentration in the aquifer has increased since the preliminary study of the problem by Herpers and Barksdale in 1951.

Highly productive stratified drift deposits are found primarily in that part of the county west of Second Watchung Mountain. They occur as valley-fill material in stream valleys cut into the underlying bedrock before the last glaciation. These deposits in Essex County are part of an extensive valley-fill aquifer system underlying the eastern Morris-western Essex County area. Water levels in these deposits in western Millburn Township have declined 36 feet since 1950, probably as a result of below normal rainfall for most of the period 1953 to 1966 together with constantly increasing pumpage throughout the area.

Withdrawals of ground water from all aquifers in Essex County for public supply averaged about 26 mgd (million gallons per day) in 1966. Pumpage for public supply from aquifers in unconsolidated sediments averaged 20.9 mgd, about 81 percent of the total from all aquifers.

Most of the productive aquifers in Essex County are currently being developed. Although the optimum potential of the stratified drift aquifers



in western Essex County and the Brunswick Formation in the northeastern part of the county probably has not been realized, development of these resources must be undertaken with care if anticipated increase in water needs of the county are to be met.

## INTRODUCTION

### PURPOSE AND SCOPE

This study was made as part of a statewide program of investigation of the ground-water resources of New Jersey, authorized by the New Jersey Water Supply Act of 1958 and its companion, Water Bond Act. The purpose and scope of these studies are to assemble the available data on geologic and hydrologic factors relating to the occurrence, movement, availability, and chemical quality of ground water in New Jersey; to evaluate and interpret the data; and to make the results of the investigation available to the public. This report represents the results of the ground-water investigation of Essex County made by the U. S. Geological Survey in cooperation with the New Jersey State Department of Conservation and Economic Development, Division of Water Policy and Supply. The work was under the general supervision of Allen Sinnott, formerly District Geologist.

### LOCATION AND EXTENT OF AREA

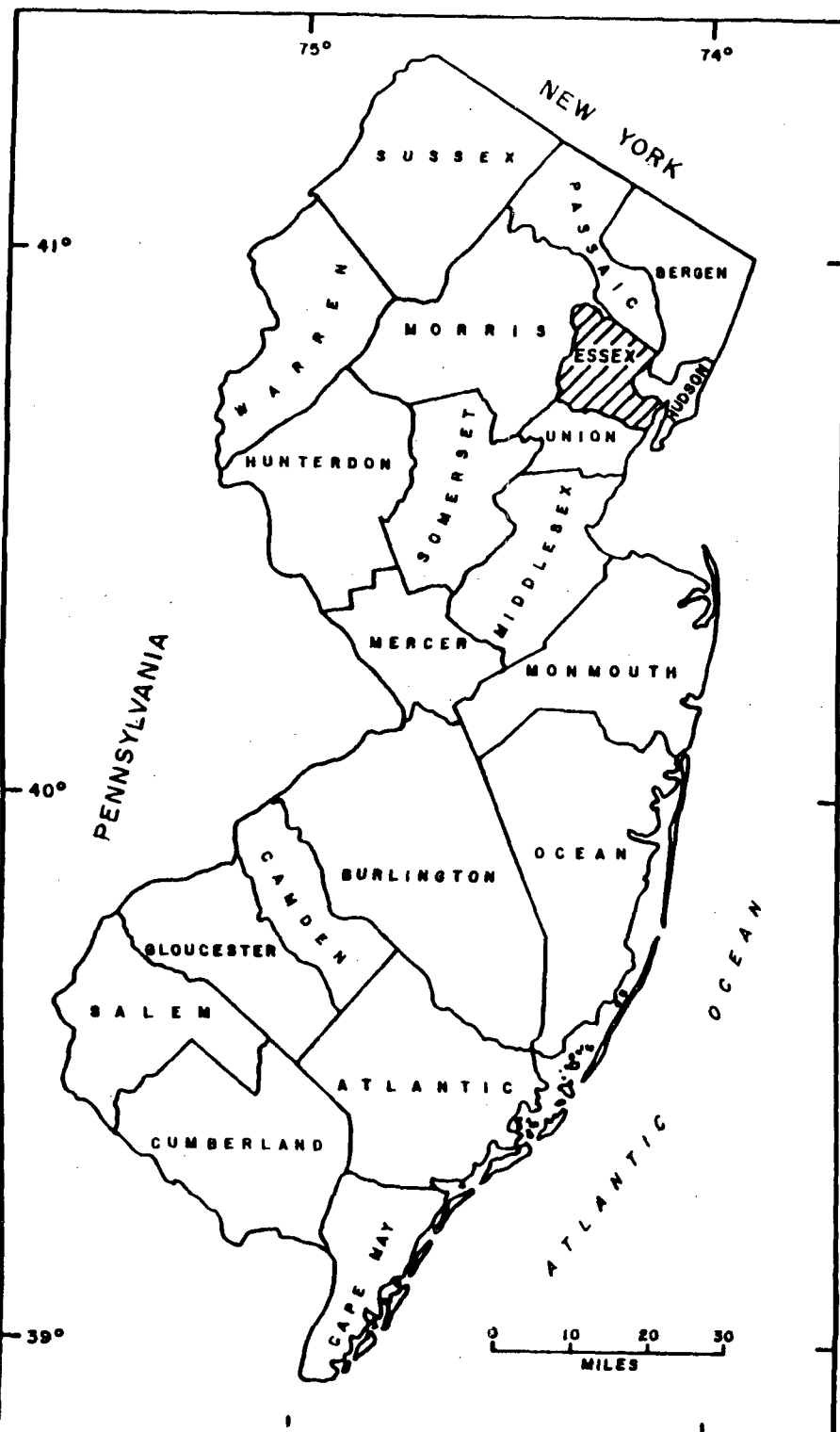
Essex County is located in northeastern New Jersey between longitudes 74°05'W and 74°25'W, and latitudes 40°40'N and 40°55'N. It is bounded on the north by Passaic County; on the east by Bergen County, Hudson County, and Newark Bay; on the south by Union County and on the west by Morris County (fig. 1). The county is 127.44 square miles in area. Newark is the county seat. Other major communities include Orange, East Orange, South Orange, West Orange, Irvington, Belleville, Nutley, Montclair, and Bloomfield.

### PREVIOUS INVESTIGATIONS

The geology of Essex County is described in detail by Darton and others (1908) in the Passaic folio. Salisbury (1894) discussed the surficial geology of the county as part of a regional investigation. Rogers and others (1951) described the engineering characteristics of the soils and glacial deposits in the county. Ground-water conditions in the extreme southwestern part of the county were described by Thompson (1932). Herpers and Barksdale (1951) discussed ground-water conditions in the Newark area.

### ACKNOWLEDGMENTS

The author wishes to thank the numerous well drillers, State, municipal, and industrial officials and private individuals who supplied data on which this report is based. Acknowledgment is made for the records and logs of wells that were furnished from the files of the New Jersey Bureau of Geology and Topography. The cooperation of those who permitted use of their wells for water-level observation, collection of water samples, and pumping tests is gratefully acknowledged. Most of the well inventory for this report was made by the late O. J. Coskery of the U. S. Geological Survey.



## GEOGRAPHY

### TOPOGRAPHY

Essex County is situated entirely on the Triassic lowlands of the Piedmont Province, one of six physiographic provinces included in the Appalachian Highland physiographic division. The province consists primarily of lowland and gently rolling hills above which rise the ridges of the Watchung Mountains. Altitudes in Essex County range from sea level in the southeastern part of the county to 650 feet along the ridges of the Watchung Mountains. The escarpment of the First Watchung Mountain, trending from northeast to southwest across the middle part of the county, rises 400 feet above the gently rolling plain to the east; the breadth of the First and Second Watchung Mountains varies from 1 to 2 miles. The major streams draining Essex county are the Passaic, Rahway, and Elizabeth Rivers.

### CLIMATE

The climate of Essex County, like that of much of New Jersey, is mainly continental because of the predominance of winds from the continental interior. The prevailing wind is from the northwest from October to April and from the southwest for the remaining months. As a consequence, winter weather is controlled by cold continental air masses and summer by tropical air masses. Precipitation in the county averages more than 48 inches annually, and is commonly well distributed throughout the year. Part of the precipitation is received from storms which cross the Great Lakes region and pass down the St. Lawrence Valley. However, the heaviest general rains are produced by coastal storms of tropical origin. The centers of these storms usually pass some distance offshore, with rainfall heaviest and winds strongest near their center (U. S. Department of Agriculture, page 1010, 1941). The average January temperature for the eastern part of the county is 39°F and that of the western part of the county about 28°F. Average temperatures in July range from about 74°F in the eastern part of the county to about 72°F in the western part of the county.

### POPULATION AND ECONOMY

Compared with the other counties in New Jersey, Essex County ranks only nineteenth in area, but ranks first in population as of the 1960 census. The population increased from 905,949 in 1950 to 923,545 in 1960—an increase of 1.9 percent; less than in any preceding 10 year period since 1900, except for 1930-40.

*Population of Essex County 1900-60*

1900 .....	359,053
1910 .....	512,886
1920 .....	652,089
1930 .....	833,513
1940 .....	837,340
1950 .....	905,949
1960 .....	923,545

Nearly 90 percent of the county's population is located in the 71.5 square miles (55.6 percent of total area) east of the Watchung Mountains.

The economy of Essex County is primarily industrial. The principal manufactured products include food products, electrical goods and machinery, chemicals, machinery (excluding electrical machinery), fabricated metal products, and apparel. In 1960, only about 5 percent of the total land area of the county was utilized as farmland.

## GEOLOGY

## INTRODUCTION

The Brunswick Formation and Watchung Basalt of the Newark Group of Late Triassic age underlie all of Essex County. The Brunswick Formation is dominantly shale and sandstone, but also includes minor amounts of conglomerate. The Watchung Basalt consists of three extensive sequences of lava flows intercalated with the shale and sandstone of the Brunswick Formation. The generalized bedrock geologic map (fig. 2) shows the areal extent of the rocks of Triassic age underlying Essex County. Overlying the rocks of the Newark Group are unconsolidated clay, sand, and gravel deposited during the Pleistocene and Recent Epochs. Pleistocene deposits are the most widespread and are found throughout the county. Deposits of Recent age are confined to the present-day stream valleys. Figure 3 shows the general distribution of the unconsolidated Pleistocene deposits.

Parts of Fairfield and Millburn Townships and Newark are underlain by valleys cut (fig. 3) in bedrock by streams that drained the area before the last glaciation. The valleys were subsequently filled in and buried by glacial debris and have little present-day surface expression.

## DISTRIBUTION AND LITHOLOGY OF ROCK UNITS

## Consolidated Rocks

Rocks of the Brunswick Formation, the uppermost unit of the Newark Group, underlie most of Essex County. The formation consists dominantly of interbedded brown, reddish-brown, and gray shale, sandy shale, sandstone, and some conglomerate. Three sheets of gray to black basalt are intercalated with sandstone and shale beds of the Brunswick Formation. The total thickness of the Brunswick Formation is not known, but probably exceeds 6,000 feet (Kümmel 1940, p. 102).

In the southern part of the county east of the Watchung Mountains, the Brunswick Formation is predominantly a soft red shale. These rocks become coarser grained toward the north. In the northern part of the county the rocks are mostly sandstone and some interbedded shale; conglomerate is found in the extreme northern part of the county. This change from soft, easily weathered, shale to more resistant sandstone is reflected in the change of topography from the rather flat low-lying plain with few hills in southern Newark to hills of low relief in the northern part of the county.

Between First and Second Watchung Mountains, the Brunswick Formation is dominantly sandstone. West of Second Watchung Mountain, the formation is covered with thick deposits of unconsolidated sediments

of glacial origin and few outcrops can be found. As indicated from records of wells drilled in this area, the rocks are mainly shale and some interbedded sandstone.

Two prominent ridges, First and Second Watchung Mountains, extend from northeast to southwest across the county (fig. 2). These are the two lowest sequences of basalt flows of the Watchung Basalt. The third, uppermost, sequence of flows is represented by Ricker Hill in Livingston Township. These basalt sheets were formed by lava which was extruded at three different times during the accumulation of the sedimentary rocks of the formation. Each of these sheets is made up of several lava flows. Scoriaceous zones occur at the top of many of the individual flows. In some places, thin beds of shale occur between successive flows. The lower part of the Watchung Basalt, which comprises First Watchung Mountain, is from 600 to 650 feet thick; the Watchung Basalt in Second Watchung Mountain varies from 750 to 900 feet in thickness; the uppermost Watchung Basalt ranges from 225 to 350 feet in thickness (Darton and others, 1908, p. 10).

First and Second Watchung Mountains are parallel, and in places have double-crested ridges reflecting the presence of interbedded sedimentary rocks; the ridges generally rise between 300 and 400 feet above the adjacent country. The trend of the ridges reflect the general strike of the sedimentary rocks of the Brunswick Formation. The beds dip about 10 degrees toward the northwest.

#### Pleistocene and Recent Deposits

Unconsolidated sediments deposited by glaciers or by glacial meltwater during the Pleistocene Epoch cover most areas of Essex County. These deposits can be divided roughly into several types. Unstratified drift called till or ground moraine is a heterogeneous mixture of clay, silt, sand, gravel, cobbles, and boulders which was deposited by the ice. Unstratified drift that has accumulated in a ridgelike deposit along the margin of a glacier is called an end moraine. Stratified drift is deposited by glacial meltwater in streams (glaciofluvial deposits) and lakes (glaciolacustrine deposits). Glaciofluvial deposits are generally stratified sand, and sand and gravel, and glaciolacustrine deposits are usually bedded or laminated silt and clay. Figure 3 is a map showing the generalized distribution of the Pleistocene deposits in Essex County.

Streams and rivers draining the Essex County area before the last glaciation cut deep valleys into the Triassic rocks (fig. 3). These valleys were subsequently buried by glacial debris, and the thickness of the glacial deposits is largely controlled by the underlying bedrock topography. The

altitude of the floor of the buried bedrock valley under the Newark area is as much as 280 feet below sea level (fig. 4), and the glacial drift is as much as 300 feet thick. In the southwestern corner of Essex County in Millburn Township, the altitude of the valley floor is 17 feet above sea level and the drift averages 150 feet in thickness. In the northwestern part of the county in Fairfield Township, the floor of the valley is as much as 35 feet below sea level and the drift has a maximum thickness of about 200 feet. In the areas between the valleys, where the bedrock surface is high, the drift ranges from 0 to 70 feet thick.

East of the Watchung Mountains and west of the buried valley under the Newark area, the glacial deposits consist dominantly of till. The valley under the Newark area, however, is filled largely with stratified drift and interbedded lenses of till. In the central and southern part of Newark the main valley (fig. 4) is filled with as much as 200 feet of lacustrine clay and sandy clay, which is overlain by 50 to 100 feet of other stratified or unstratified glacial drift. In the northern part of Newark, where the valley (fig. 4) parallels the Passaic River, the valley contains several deposits of sand and gravel interbedded with clay and till. The sand and gravel ranges from 1 to 19 feet in thickness and is encountered mostly at depths of less than 50 feet and depths of more than 220 feet below land surface.

The present-day valley between First and Second Watchung Mountains is underlain by approximately 100 feet of stratified drift in both Cedar Grove in the north and Millburn Township in the south. These deposits consist mostly of stratified sand and gravel. Their maximum thickness appears to occur under that part of the valley west of the Rahway and Peckman Rivers; east of the rivers, the bedrock surface is shallow (30 to 50 feet below the valley floor), and the unconsolidated deposits are thin. There are not enough data to define the thickness and character of the subsurface glacial deposits in the valley in Verona and most of West Orange.

West of Second Watchung Mountain, the stratigraphy of the glacial deposits is moderately complex, especially in the buried valleys. The drift in the main buried valley in Livingston and Millburn Townships (fig. 3) has a maximum thickness of about 170 feet and consists of interbedded sand, sand and gravel, clay and till. Thicknesses of sand and gravel outwash range from 20 to 80 feet. Farther north, in north-western Fairfield, the main buried valley (fig. 3) is filled with as much as 200 feet of drift consisting almost exclusively of 140 to 170 feet of laminated silt and clay underlain by 10 to 30 feet of till. Deposits of fine- to medium-grained sand ranging in thickness from 0 to 20 feet occur on the surface.

The tributary buried valleys in Fairfield Township (fig. 3) contain from 30 to 50 feet of silty sand, sand, and gravel overlain by clay and till near the confluence with the main buried valley. Where the bedrock surface is high, between buried valleys, the glacial deposits consist dominantly of till. However, some stratified sand and gravel are found in the subsurface in eastern Roseland and Essex Fells which do not occur as valley-fill deposits.

Unconsolidated sediments of Recent age are confined to areas adjacent to present-day streams. These deposits consist of clay, silt, and fine sand with gravel. (Rogers and others, 1957, p. 7).

## GROUND-WATER HYDROLOGY

### INTRODUCTION

Ground water is derived from that part of precipitation that does not run off the surface of the land to streams or return to the atmosphere through evaporation and transpiration. Factors which determine the amount of water that infiltrates to the ground-water reservoir include (1) the porosity and permeability of the surficial material, (2) the slope of the land, (3) the amount and kind of natural and artificial cover, and (4) the intensity and amount of precipitation.

The permeability of a rock, or its ability to transmit water, depends on its porosity, that is, on the number and size of the interstices and on the extent to which the interstices are interconnected. The porosity of a rock, in turn, depends largely on: "the shape and arrangement of its constituent particles, the degree of assortment of its particles, the cementation and compacting to which it has been subjected since its deposition, the removal of mineral matter through solution by percolating waters, and the fracturing of the rock, resulting in joints and other openings" (Meinzer, 1923, p. 3). Porosity is expressed quantitatively as the ratio between the volume of void to the total volume of the rock, that is, as the percentage of the total volume of rock occupied by interstices.

On the basis of the type of openings in which ground water may occur, the geologic formations in Essex County may be divided into two groups: (1) consolidated rocks of Triassic age, and (2) unconsolidated sediments of Pleistocene age.

The primary pore spaces in consolidated rocks of the Brunswick Formation in Essex County are commonly so small that an insignificant quantity of water, if any, moves through them under the natural hydraulic gradients or those established by pumping. However, a joint and fracture system that has developed in the consolidated rocks provides secondary porosity and it is largely in and through these openings that the storage and movement of ground water takes place. In addition, vesicles and scoriaceous zones in the basalt add to the porosity in these rocks. Limited interconnected void space occurs in sandstone beds where cementing material is lacking. The volume of all of these openings constitute only a very small percentage of the total volume of the Brunswick Formation and, consequently, their capacity to store and transmit water is limited.

In unconsolidated sediments, water occurs in the pore spaces between the constituent grains. The capacity of unconsolidated sand and gravel deposits to store and transmit water is commonly much greater than that of the consolidated rocks. The reason for this is that the ratio of the

volume of void to the total volume of unconsolidated sediment is considerably greater than the ratio of the volume of fracture openings to the total volume of rock. The interstitial openings in clays and silts are so small, however, that they restrict the movement of water, even though the percentage of void space may be great.

### WATER-BEARING PROPERTIES OF MAJOR GEOLOGIC UNITS

#### Consolidated Rocks

Rocks of the Brunswick Formation are the main source of ground water in Essex County. The shales and sandstones are generally capable of sustaining moderate to large yields to wells. The Watchung basalt commonly is capable of yielding only small to moderate quantities of water.

Water in these rocks occurs under both unconfined and confined conditions. Unconfined ground water occurs mainly in the upland areas where overlying unconsolidated deposits are thin or absent. Confined and semi-confined ground water conditions exist in lowland areas in Newark, parts of Fairfield, and along the Passaic River where clay beds in the unconsolidated Quaternary deposits mantle the underlying rocks. Wherever such confinement occurs, water beneath the relatively impermeable confining layers is commonly under artesian pressure. In many areas, such as parts of Fairfield and in the northern part of the county, water in wells tapping the confined aquifers will rise above the top of the aquifer and sometimes near or above land surface. In areas subjected to heavy pumping, such as the Newark area and western Millburn Township, the artesian pressure may be considerably reduced. Parts of the confined aquifer may even become dewatered as has happened in part of Newark, in which case the water remaining in the aquifer is no longer confined.

Confined ground water is also encountered in the shales and sandstone directly beneath the basalt flows in the western part of the county down-dip from the outcrop area. Confined or semiconfined ground-water conditions may occur in some areas because of differences in permeability within the rock layers resulting from variations in fracturing or weathering or a combination of both.

Some of the various systems of joints and fractures in the consolidated rocks intersect so that water can move vertically as well as horizontally and zones of high secondary porosity are then interconnected. Most wells tapping these rocks draw water from more than one water-bearing zone. However, these zones in the Brunswick Formation have not yet been accurately defined. They are certainly within the first 600 feet below land surface, and for most practical purposes are probably within the first 400 feet. The best producing wells in the Brunswick Formation in

Essex County are for the most part between 300 and 400 feet deep. Nevertheless, the lack of any precise known boundaries makes it difficult to determine the optimum depth to which a well should be drilled in any given location. Also it is impossible to predict the yield of a proposed well except in very general terms based on the average yield of other wells in the area.

Two pumping tests, both at the same locality, were conducted by the U. S. Geological Survey in January 1949 on wells tapping the Brunswick Formation in Essex County. The wells (owned by P. Ballantine and Sons, Newark), shown on figure 5, were selected to provide the best possible spread of observation wells in as many directions as possible. As the results of the tests have been reported by Herpers and Barksdale (1951, p. 28-31) they will be only summarized here.

In the first test, the centrally located well I-1 was pumped and water levels were observed in the seven surrounding wells indicated on figure 5. Well II-9 was pumped during the second test and the same wells were used to observe water levels. In both tests, observation wells lying along the strike of the Brunswick Formation with respect to the pumping well showed the greatest drawdown. When well I-1 was pumped, there was a prompt and distinct decline of the water level in observation well II-8. When well II-9 was pumped, the water level in observation well II-10 responded promptly and distinctly. No significant response was seen in observation wells aligned in directions other than along the strike during either test.

In these tests, as well as in several others conducted, it is invariably noted that aquifers in the sedimentary rocks of Triassic age of northern New Jersey are anisotropic, that is, they do not transmit water equally in all directions (Vecchioli, 1967). The greatest drawdowns are observed in those wells aligned along the strike of the sedimentary layers with respect to the pumping well. The least amount of drawdown is observed in observation wells that are located transverse to the strike. These observations have been interpreted to indicate that water moves more readily along joints and fractures which strike parallel to the strike of the bedding than along joints and fractures which strike in other directions. It is useful, when planning future well locations, to know the direction in which wells will interfere most with each other and with existing wells. In general, wells should be spaced far apart along the direction of strike (approximately N 30° E for most of Essex County) because it is in this direction that the greatest interference occurs. They may be placed closer together perpendicular to the strike since interference is less in that direction.

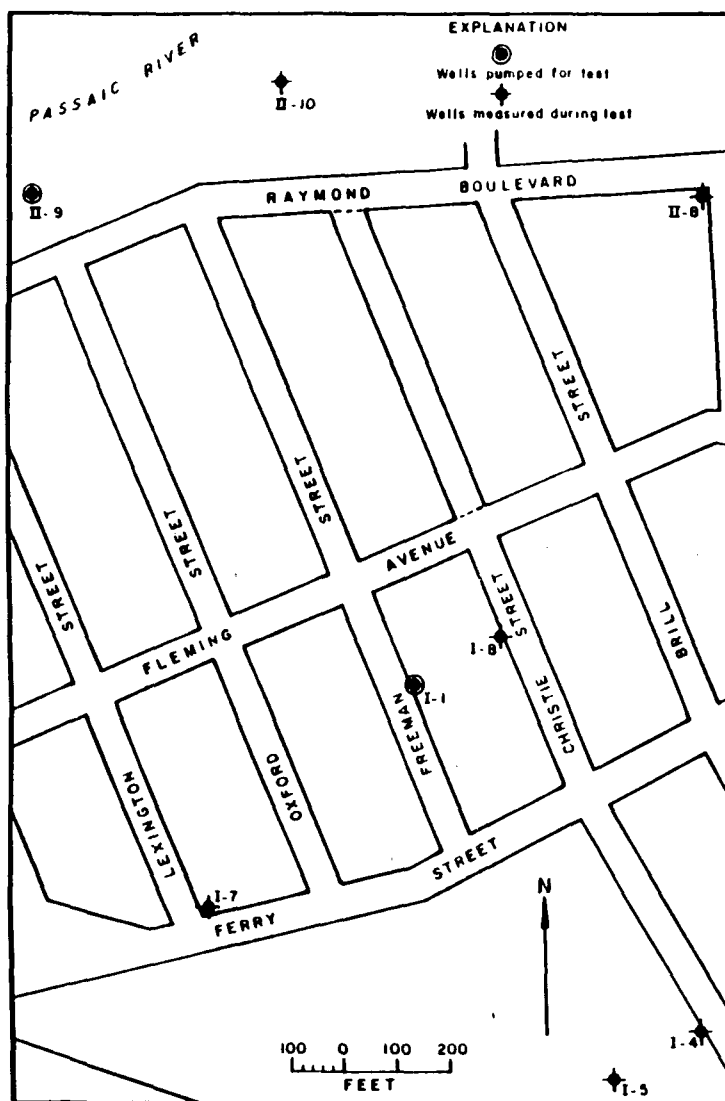


Figure 5.—Location of wells at plants of P. Ballantine and Sons, Newark, N. J., used during pumping tests in January 1949 (after Herpers and Barksdale, 1951, fig. 3, p. 30).

### Well Yield and Specific Capacity

Yields of 35 large diameter public-supply, industrial, and commercial wells tapping the Brunswick Formation range from 35 to 820 gpm (gallons per minute) (Table 2) and average 364 gpm. The distribution of the yields is as follows:

Yields	No. of wells
0-150	4
151-300	12
301-500	12
> 500	7

Depths of the same wells in the Brunswick Formation range from 115 to 856 feet; the average depth is 381 feet. Specific capacities of the 35 wells range from 0.21 to 70.00 gpm per foot of drawdown and average 11.07 gpm per foot of drawdown.

Wells tapping the Watchung Basalt commonly produce small to moderate quantities of water. Yields of 26 wells range from 7 to 400 gpm (Table 2) and average 116 gpm. The distribution of the yields is as follows:

Yields	No. of wells
0-100	15
100-199	5
200-300	5
> 300	1

Specific capacities of wells in the basalt range from 0.05 to 5.66 gpm per foot of drawdown and average 1.74 gpm per foot of drawdown. Several moderate to high yielding public supply and industrial wells have been developed in the Essex Fells-West Caldwell-Fairfield area. These higher yields may be the result of increased fracturing of the basalt which has been slightly folded in this area.

Figures 6, 7, and 8 are specific capacity cumulative frequency distribution graphs for wells in the Brunswick Formation in Essex County. In figure 6, specific capacities are grouped on the basis of well depth. Wells drilled between 300 and 399 feet deep appear to have consistently higher specific capacities than wells of other depths (fig. 6). This relationship suggests that the best water-bearing zones in the Brunswick Formation will be



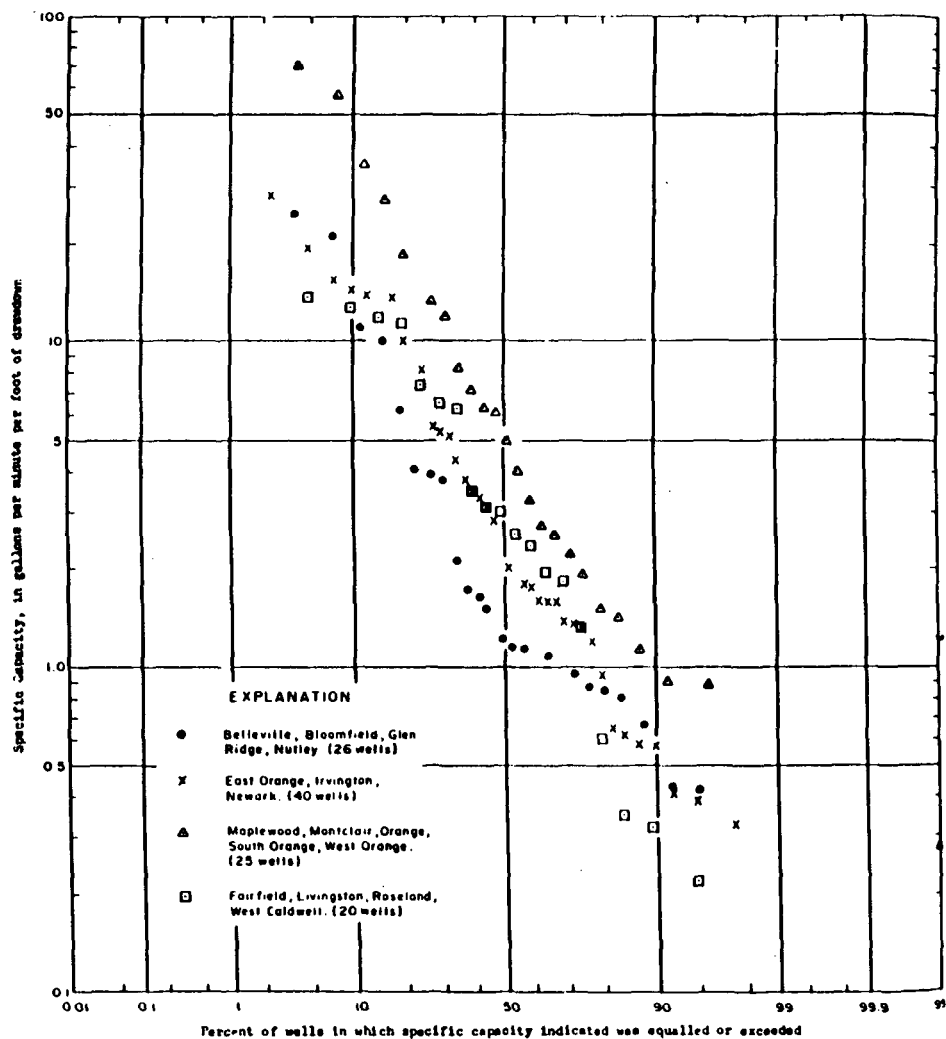


Figure 7.—Cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to geographic area.

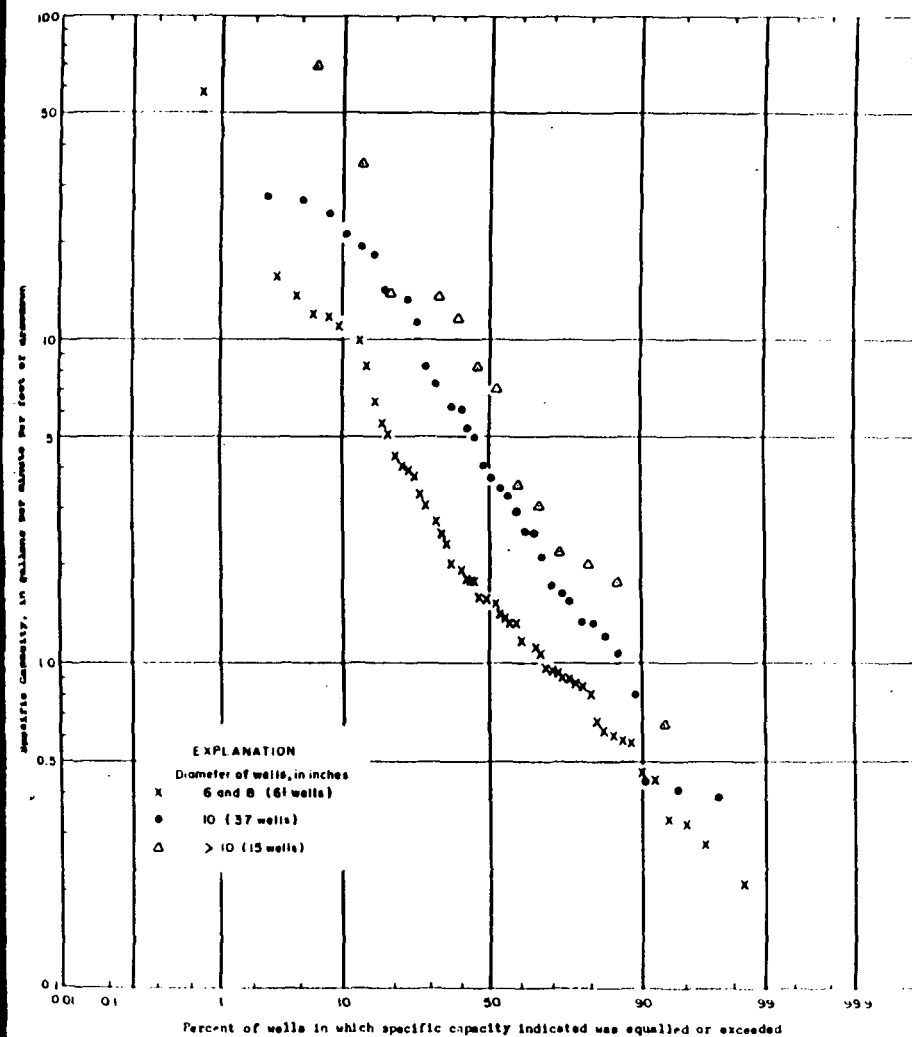


Figure 8.—Cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to well diameter.

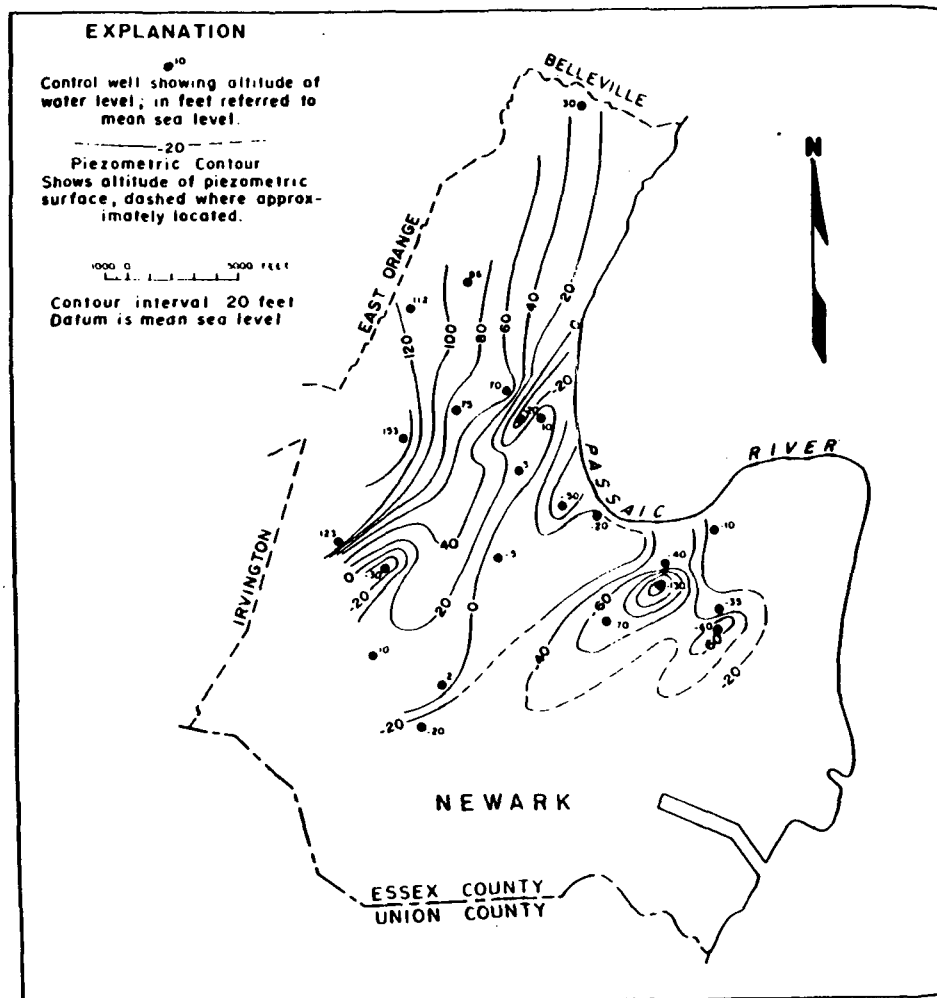


Figure 9.—Generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1890 and 1900.

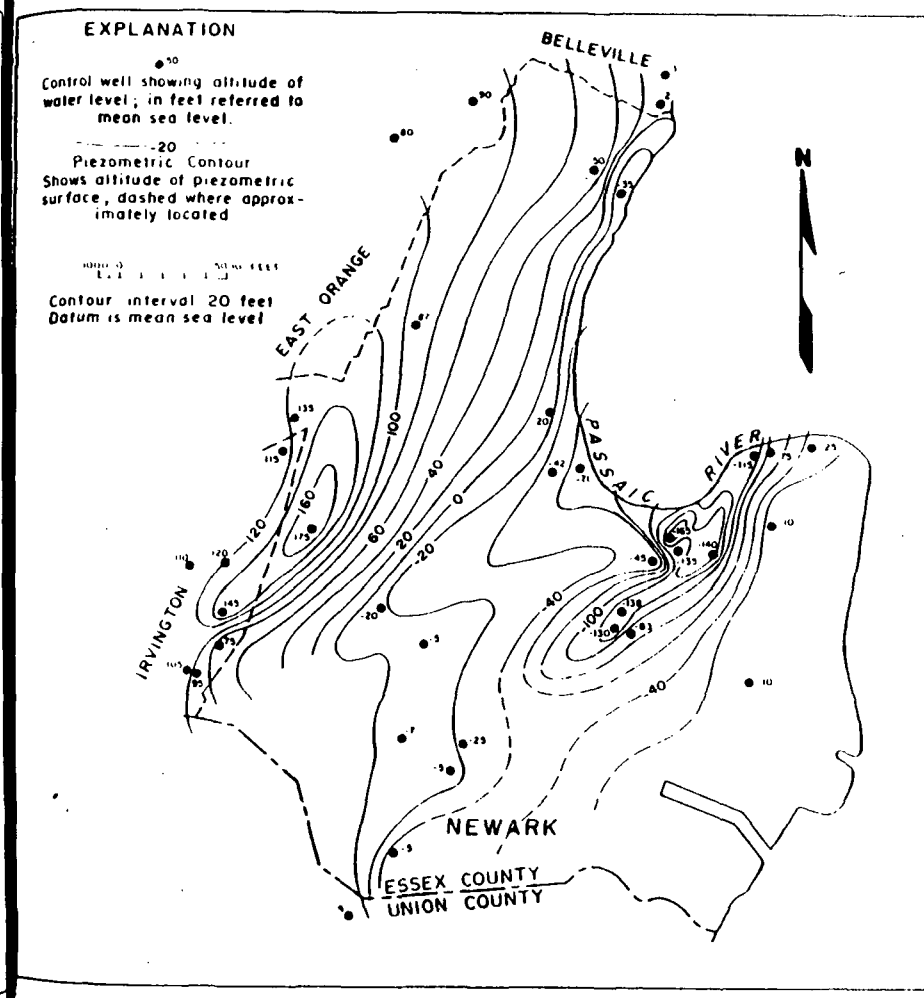


Figure 10.—Generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1950 and 1960.

Salt-water contamination of the Brunswick Formation in the Newark area has been investigated by Herpers and Barksdale (1951). Their study was based on analyses of water samples collected in 1942 by the city of Newark. More recent analyses suggest there has been additional encroachment of saline water since 1942 throughout the problem area. In 1942, water from the Wilbur Driver Company's well No. 2 along the Passaic River in northern Newark contained 72 ppm chloride. In 1961, water from this same well contained 330 ppm chloride. Water from a well drilled by Mutual Benefit Life Insurance Company, 520 Broad Street, in 1965 contained 1,145 ppm chloride. Samples collected from other wells in this area contained less than 500 ppm chloride in 1942.

### Pleistocene Deposits

Unconsolidated sediments of Pleistocene age mantle the bedrock throughout much of Essex County (fig. 3). They consist of clay, silt, sand, gravel, and boulders and can be divided into two general categories—stratified drift and unstratified drift. Only sand and gravel aquifers in stratified drift deposits contain sufficient quantities of water to warrant discussion of their water-bearing properties.

Water in the stratified drift occurs under both unconfined (water table) and confined (artesian) conditions. Unconfined ground water occurs where sand and gravel deposits are not covered by clay, silt, or glacial till and are exposed at the surface. The distribution of these deposits is shown on figure 3. For the most part however, these sand and gravel deposits do not yield large quantities of water as they are commonly less than 20 feet thick and are not areally extensive. The unconfined aquifers are recharged directly from precipitation on the outcrop area. Confined and semiconfined ground water occurs where sand and gravel deposits have been covered by lake clay or silt, or by glacial till. These deposits are largely confined to the buried valley so they are not visible on the surface and their regional extent and distribution are therefore not readily apparent. The confined and semiconfined aquifers are recharged by leakage through overlying confining beds and by precipitation falling on outcrop areas outside Essex County. Some recharge may also be derived from the underlying and adjacent Brunswick Formation.

The most productive artesian and semi-artesian aquifers in the stratified drift in Essex County occur as valley fill in stream valleys that were cut in the bedrock before the last glaciation. Consequently the size, shape, and distribution of the aquifers conform to the size, shape, and distribution of the bedrock valleys. The bedrock valley underlying the Newark area (shown on fig. 4) is filled with till and clay, and contains only minor amounts of water-bearing sand. Extensive subsurface exploration in western



Essex and eastern Morris Counties has demonstrated that the valley-fill aquifers in Essex County are part of an extensive valley-fill aquifer system underlying much of these two counties (Vecchioli and others, 1968). Figure 11 shows the known distribution of valley-fill aquifers in western Essex County.

The most highly developed part of the valley-fill aquifer system is in western Millburn and southwestern Livingston. Four well fields tapping the Pleistocene sand and gravel are located in an area of less than 4 square miles. During 1965 an average of 13.6 mgd (million gallons per day) was pumped from these fields. Such continued heavy development has, naturally, lowered water levels in the aquifer. In 1925, the depth to water in the Canoe Brook well field of Commonwealth Water Company was about 30 feet below land surface. By 1965, the average depth to water in the same field had dropped to 83.5 feet below land surface.

Figure 12 shows the annual mean depth to water in the Commonwealth Water Company's Canoe Brook well field for the 20-year period 1947 to 1966. The water level has declined almost continuously since 1947. This is due in large part to increased demands placed on the adjacent Canoe Brook well fields of the Commonwealth Water Co. and East Orange Water Dept. for most of the period 1947 to 1961. Commonwealth Water Company's Passaic River well field was put into service in 1956 and although the demands on their Canoe Brook field were lessened, the combined pumpage (not shown) continued to increase. However, in spite of the fact that from 1961 to 1966 pumpage from the Commonwealth and East Orange Canoe Brook fields decreased, the water level in the Commonwealth Canoe Brook field continued to decline (fig. 12). Several factors probably have caused this continuing lowering of water level. The Passaic River well field taps the same aquifer and withdrawals there have undoubtedly had some effect on area water levels. In addition, Commonwealth's Canoe Brook well field area has had below average rainfall for 12 of the 13 years since 1953 with a consequent reduction in the amount of available recharge. The reduction in recharge together with increased demands during extended dry periods, especially from 1961 to 1966, have contributed to the steady decline of the water level in the aquifer.

Aquifer tests on the stratified drift deposits have been conducted by the U. S. Geological Survey at two localities in Essex County and at several places in Morris County. The reliability of the results of these tests are questionable for the following reasons: (1) the aquifers are not areally extensive; (2) it is impossible to control or eliminate outside interference; (3) it is seldom possible to establish pre-test water-level

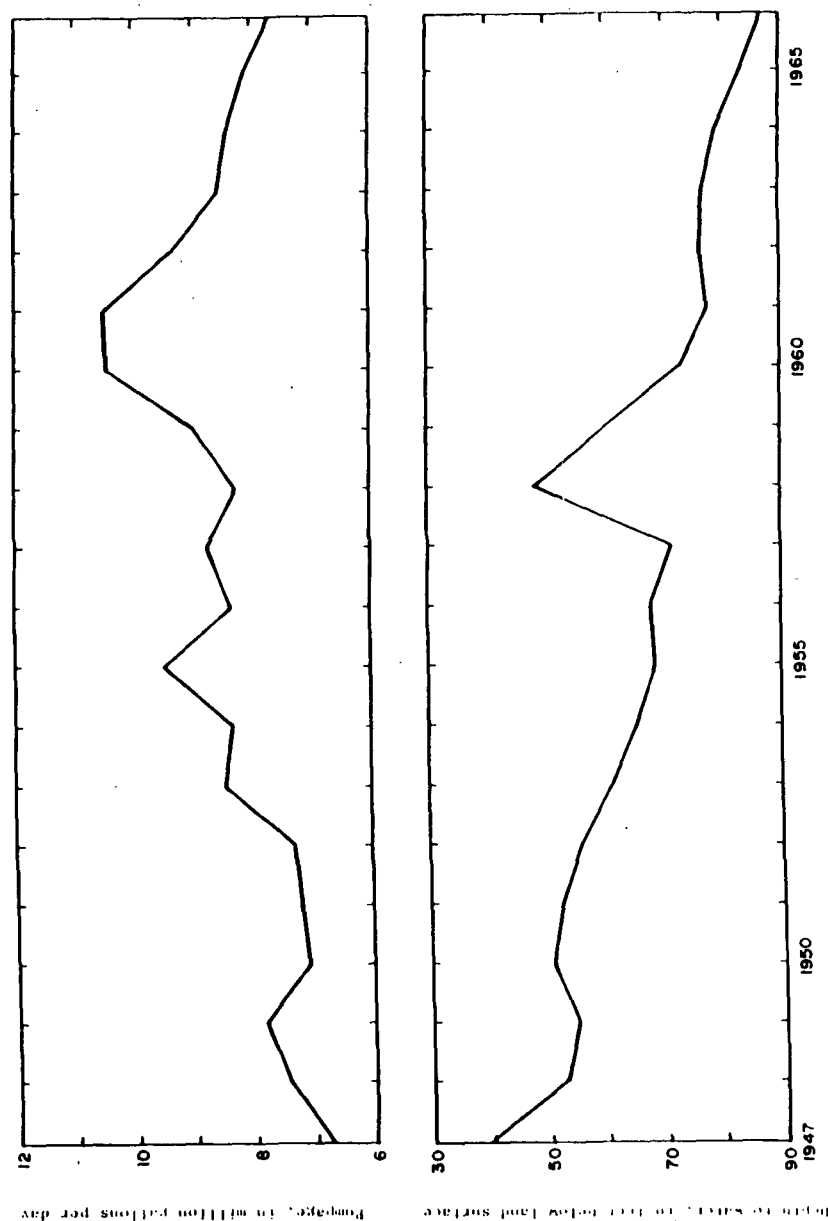


Figure 12.—Depth to water in the Commonwealth Water Company Canoe Brook well field and ground-water pumpage from the Commonwealth Water Company and East Orange Water Dept. Canoe Brook fields, 1947-66.

trends; and (4) observation wells commonly are insufficient in number or not properly located. It is therefore difficult to apply average figures for permeability, transmissivity, and the coefficient of storage to the valley fill aquifer and then use these figures to determine long-range effects of pumpage throughout the aquifer system. Each area must be evaluated in context with the numerous variables by which it is affected.

Stratified drift deposits are the most productive aquifers in Essex County. Yields of 27 large-diameter wells tapping these deposits range from 410 gpm to 1,593 gpm (table 2) and average 908 gpm. The distribution of the well yields is as follows:

<u>Yields</u>	<u>No. of wells</u>
< 500-gpm	3
501- 800 gpm	11
801-1,200 gpm	9
> 1,200 gpm	4

Water from the stratified drift deposits ranges in hardness from 104 ppm to 212 ppm (table 3). Most of the samples analyzed had sulfate concentrations of 40 ppm or less, chloride concentrations of less than 11 ppm, and nitrate concentrations of 3 ppm or less. However, water from one well in Essex Fells had chloride and nitrate concentrations of 28 ppm and 6.4 ppm, respectively, and water from two wells in Millburn had sulfate concentrations of 67 ppm and 77 ppm. The higher concentrations of these constituents suggests a low-grade pollution problem, probably resulting from either sewage or the use of chemical fertilizers in the area. Manganese concentrations slightly in excess of the Public Health Service's recommended maximum limit of 0.05 ppm occur locally in the Commonwealth well field.

## WATER SUPPLY

### UTILIZATION OF GROUND WATER

Public and industrial use of water in 1962 in Essex County averaged about 147 mgd. Of this amount, about 43 mgd were pumped from ground-water sources. This represents about 28 percent of the total water used in the county during 1962.

An average of 25.833 mgd of ground water was withdrawn for public supply from aquifers in Essex County in 1966 (Table 1). Of this an average of about 20.9 mgd, or 81 percent, was pumped from Quaternary stratified drift deposits. Pumpage in Millburn Township, amounting to about 15 mgd, exceeded by far the public-supply pumpage of ground water from any other municipality. Figure 13 shows the pumpage for public supply from aquifers in Essex County from 1947 to 1966.

Table 1.—Ground-water pumpage for public supply from aquifers in Essex County in 1966.

<i>Water Department or Company</i>	<i>Average mgd</i>
Commonwealth Water Co.	11.754
East Orange Water Dept.	4.571
Essex Fells Water Dept.	2.582
Fairfield Water Dept.	.071
Livingston Water Dept.	2.112
Orange Water Dept.	3.026
South Orange Water Dept.	1.717
Total	25.883

### FUTURE DEMAND AND DEVELOPMENT

Future demand for water supply from all sources in Essex County depends largely on population trends and trends in water-consuming industries and devices. Per capita consumption of water in Essex County in 1960 was 131 gpd (gallons per day). This is expected to rise to about 223 gpd by the year 1990 (New Jersey Division of Water Policy and Supply, 1967, unpublished data). Estimates of total future water use by the New Jersey Division of Water Policy and Supply (unpublished data, 1967) suggest that about 230 mgd of potable water will be needed in the year 1990 on the basis of the above per capita consumption. Most of this increase will probably have to come from surface sources.



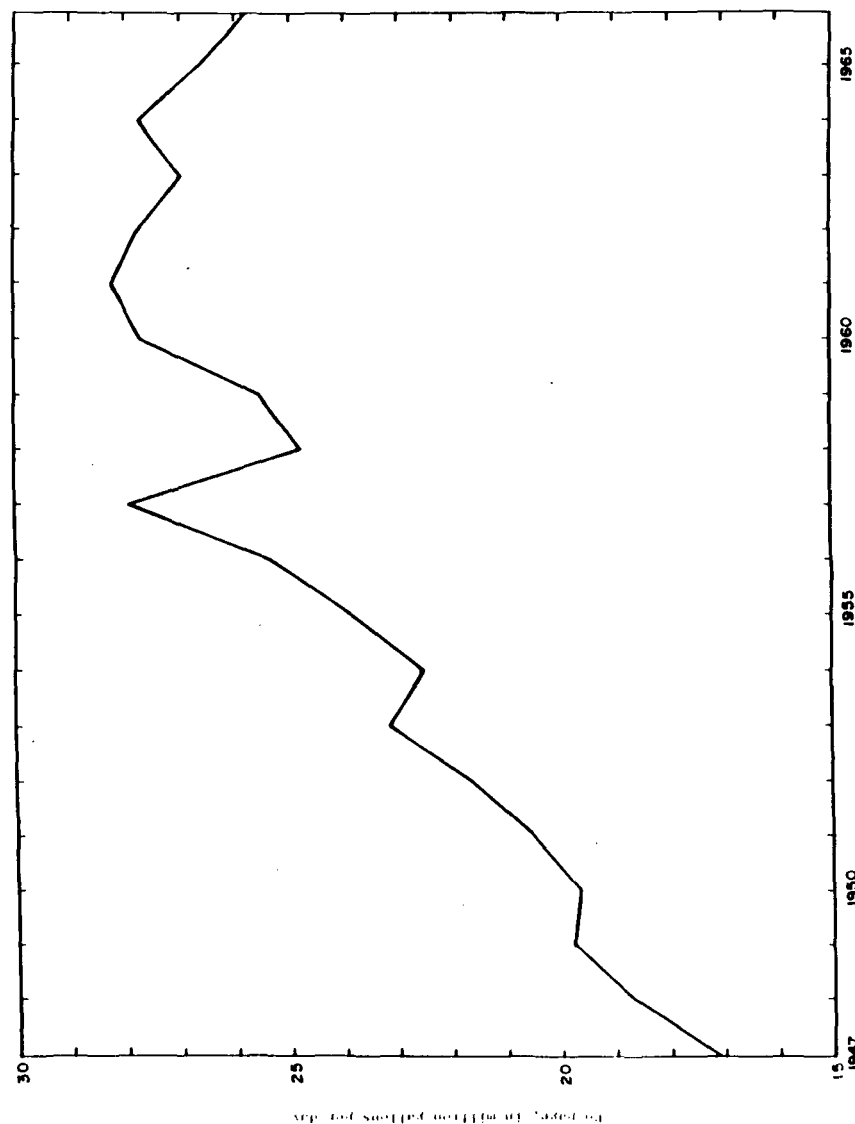


Figure 13.—Ground-water pumpage for public supply, 1947 to 1966.

The aquifers of the Brunswick Formation under part of the Newark area are currently overdeveloped and potable ground water is being mined. Water levels in this area will remain excessively low, as they have for the past 70 years, even if no additional development is attempted. Extensive development of the Brunswick Formation in western Essex County may have an adverse effect on water levels in the overlying stratified drift deposits since some of the recharge to these deposits may be derived from the underlying rocks.

The extent and distribution of aquifers in the stratified drift deposits have been fairly well determined for most of the western part of the county. These aquifers are being utilized throughout much of this part of the county and have been highly developed in parts of Millburn and Livingston Townships. Although the full potential of these deposits has probably not been realized, their optimum potential will not be known until more detailed hydrologic studies are made on the entire aquifer system.

Aquifer name:  
Qsd, Stratified drift  
TRb, Brunswick Formation  
TRwb, Watchung Basalt

TABLE 2.—RECORDS OF SELECTED WELLS IN ESSEX COUNTY, N. J.—Continued

Remarks:  
O.W., Owners well number

Well	Owner or Tenant	Driller	Date Drilled	Altitude above mean sea level (ft)	Total depth drilled below land surface (ft)	Diameter of well (inches)	Depth to which well is cased (ft)	Screen setting (ft)	Aquifer	Static level below land surface (feet)	Yield (gpm)	Draw-down (ft)	Specific capacity (gpm/ft)	Remarks
MONTCLAIR (TOWN)														
1	Rapt & Ruden	Parkhurst Well & Pump Co.	4-29-48	360	250	10	23	none	TRb	5	145	180	.81	
2	Bond's Ice Cream, Inc.	Parkhurst Well & Pump Co.	3-10-50	510	157	8	21	none	TRb	15	150	55	2.73	
3	Town of Montclair	-----	1966	---	300	10	41	none	TRb	24	950	51	18.62	
4	Hahne & Co.	Parkhurst Well & Pump Co.	8-9-49	280	350	8	31	none	TRb	18	350	182	1.92	O.W. 2
5	M. Quadrel	Burrows Well Drilling Co.	June, 1955	260	151	6	18	none	TRb	33	75	---	---	
6	Montclair Auto Minit Man	Rinbrand Well Drilling Co.	1-10-50	---	200	6	16	none	TRb	40	60	---	---	
NEWARK (CITY)														
1	Aluminum Finishing Co.	J. Foster	7-20-53	50	150	6	55	none	TRb	30	100	30	3.33	
2	Wilbur B. Driver Co.	Rinbrand Well Drilling Co.	7-2-53	15	400	10	93	none	TRb	45	240	155	1.55	O.W. 5
3	Pittsburgh Plate Glass Co.	Lauman & Co.	1940	12	---	12	90	none	TRb	9	390	---	---	
4	McEvoy Court Apartments	Parkhurst Well & Pump Co.	Oct. 1939	200	206	6	35	none	TRb	84	60	106	.57	
5	Columbia Theaters, Inc.	Wm. Stothoff Co., Inc.	6-9-53	---	312	8	26	none	TRb	20	140	32	4.38	
6	Pabst Brewing Co., Inc.	Artesian Well & Equip. Co.	3-14-49	190	685	14	39	none	TRb	59	557	67	8.31	O.W. 4
7	Pabst Brewing Co., Inc.	Artesian Well & Equip. Co.	7-17-50	185	687	14	55	none	TRb	108	240	120	2.00	O.W. 5
8	Newark Milk & Cream Co.	Rinbrand Well Drilling Co.	Feb. 1949	25	700	10	80	none	TRb	60	75	190	.39	
9	Continental Ins. Co.	S. P. D'Alessio	July 1965	---	300	8	58	none	TRb	77	85	72	1.18	
10	Newark Center Corp.	Garden State Artesian Well & Pump Co.	2-18-55	---	700	10-6	150	none	TRb	81	89	144	.62	O.W. 1
11	Kolker Chemical Works	Wm. Stothoff Co., Inc.	12-11-51	12	802	12	127	none	TRb	117	600	43	13.95	O.W. 2
12	Kolker Chemical Works	Wm. Stothoff Co., Inc.	4-27-49	8	359	10	98	none	TRb	76	300	22	13.63	O.W. 1
13	Eureka Construction Co.	Rinbrand Well Drilling Co.	1-23-59	10	500	8	90	none	TRb	25	75	225	.33	
14	P. Ballentine & Sons	-----	1937	12	875	16	95	none	TRb	227	375	153	1.79	O.W. 8, Plant #2

Aquifer name:  
Qsd, Stratified drift  
TRb, Brunswick Formation  
TRwb, Watchung Basalt

TABLE 2.—RECORDS OF SELECTED WELLS IN ESSEX COUNTY, N. J.—Continued

Remarks:  
O.W., Owners well number

45

Well	Owner or Tenant	Driller	Date Drilled	Altitude above mean sea level (ft)	Total depth drilled below land surface (ft)	Diameter of well (inches)	Depth to which well is cased (ft)	Screen setting (ft)	Aquifer	Static level below land surface (feet)	Yield (gpm)	Draw-down (ft)	Specific capacity (gpm, ft)	Remarks
NEWARK (CITY) - Continued														
15	Celanese Corp. of Amer.	P. H. & J. Colan	1924	12	805	16-10	95	none	TRb	176	400	28	14.29	O.W. 26
16	Celanese Corp. of Amer.	Layne-New York Co.	5-16-47	14	856	16-10	75	none	TRb	147	778	40	19.45	O.W. 27
17	J. Henster Brewing Co.	P. Chaffitelli	12-14-49	12	700	10-8	57	none	TRb	60	450	240	1.79	O.W. 4
18	Synthetic Plastics Co.	Industrial Well & Pump Co.	1-15-63	14	600	8	145	none	TRb	150	300	110	2.73	O.W. 1
19	Ablon Finishes, Inc.	Frank Bott	7-12-60	15	500	8	86	none	TRb	30	360	70	5.14	
20	Cotan Corporation	-----	1930	10	290	8	---	none	TRb	140	160	95	1.59	
21	Universal Grain Co.	Wm. Stothoff Co., Inc.	10-18-51	10	303	8	79	none	TRb	143	200	53	3.77	
22	Mother's Food Products, Inc.	-----	1959	11	400	8	107	none	TRb	94	125	8	15.62	
23	Kar Auto Service Co.	P. Chaffitelli	2- 8-50	208	300	6	35	none	TRb	23	60	104	.58	
24	Food Fair Stores	Burrows Well Drilling Co.	April, 1955	100	298	8	35	none	TRb	105	250	45	5.56	
25	S. & S. Super Service Corp.	Rinbrand Well Drilling Co.	2-18-50	50	190	6	94	none	TRb	45	20	---	---	
26	Rutherford & Delaney Holding Co.	Garden State Artesian Well & Pump Co.	7-31-56	---	220	8-6	42	none	TRb	22	100	73	1.37	O.W. 1
27	Linde Air Products Co.	Artesian Well & Equip. Co.	July, 1954	10	500	12	44	none	TRb	17	124	190	.65	
28	C-O Two Fire Equipment Co.	Parkhurst Well & Pump Co.	4-27-50	10	603	10	127	none	TRb	35	89	215	.41	
29	Suburban Motor Lodge, Inc.	Rinbrand Well Drilling Co.	June, 1950	10	555	8	126	none	TRb	15	20	235	.08	
30	S. B. Penick & Co.	Wm. Stothoff Co., Inc.	6- 7-61	---	400	10	75	none	TRb	60	644	23	28.00	O.W. 2
NORTH CALDWELL BOROUGH														
1	Green Brook Country Club	H. A. Kieffer	July, 1951	310	300	8	33	none	TRwb	2	25	81	.31	O.W. 3
2	Green Brook Country Club	H. A. Kieffer	March, 1925	290	301	8	---	none	TRb & TRwb	flowing 25 gpm	60	---	---	O.W. 1, Redrilled 1962
3	A. Struss	H. A. Kieffer	8-16-55	---	182	6	42	none	TRwb	65	25	5	5.00	
4	A. F. Leitner	Algeier Bros.	5-24-58	---	195	6	25	none	TRwb	25	7	125	.05	

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**REFERENCE NO. 34**

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# **Uncontrolled Hazardous Waste Site Ranking System**

## **A Users Manual** (HW-10)

Originally Published in  
the July 16, 1982, *Federal Register*

**United States  
Environmental Protection  
Agency**

**1984**



TABLE 2  
PERMEABILITY OF GEOLOGIC MATERIALS\*

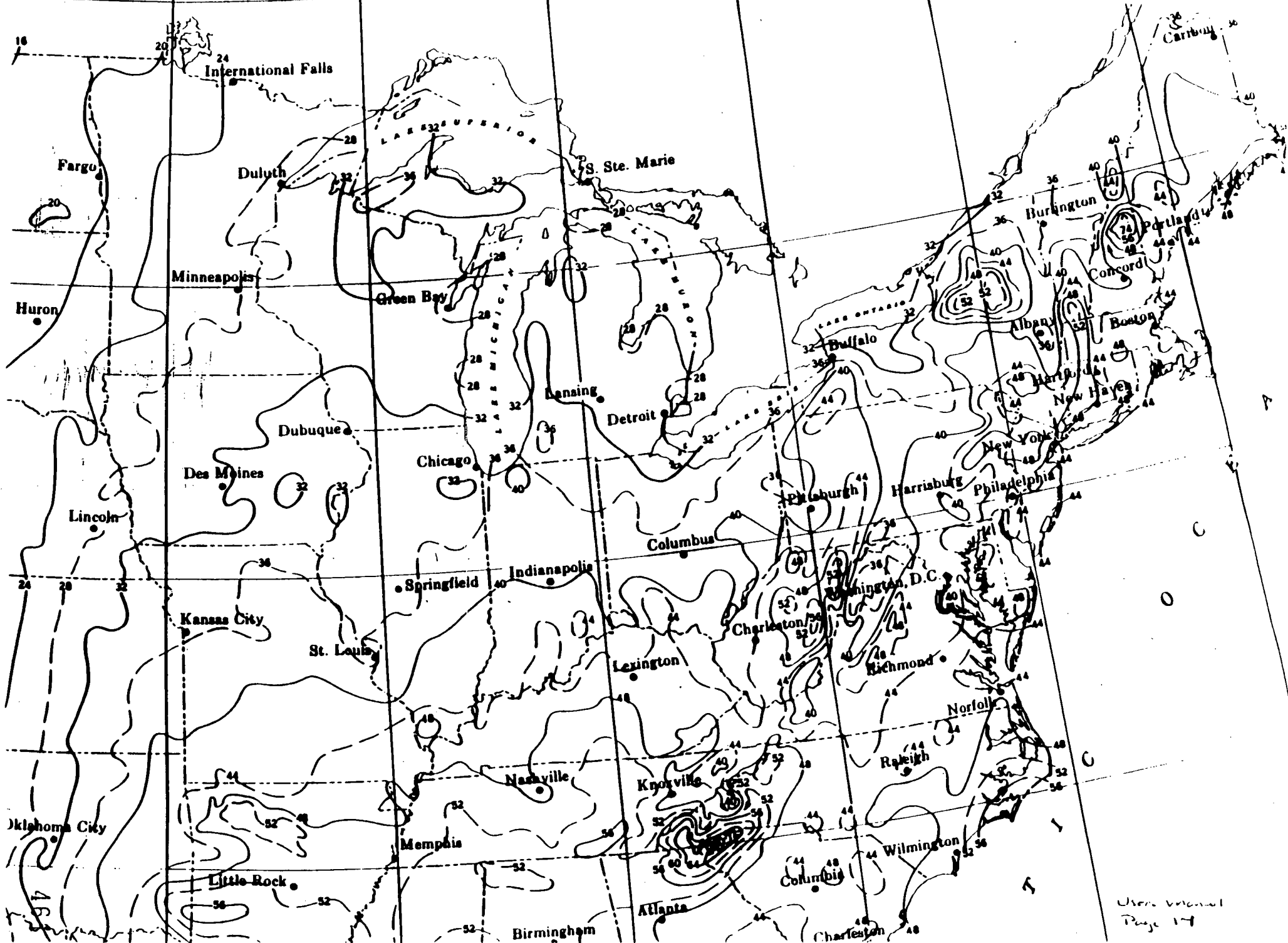
Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

\*Derived from:

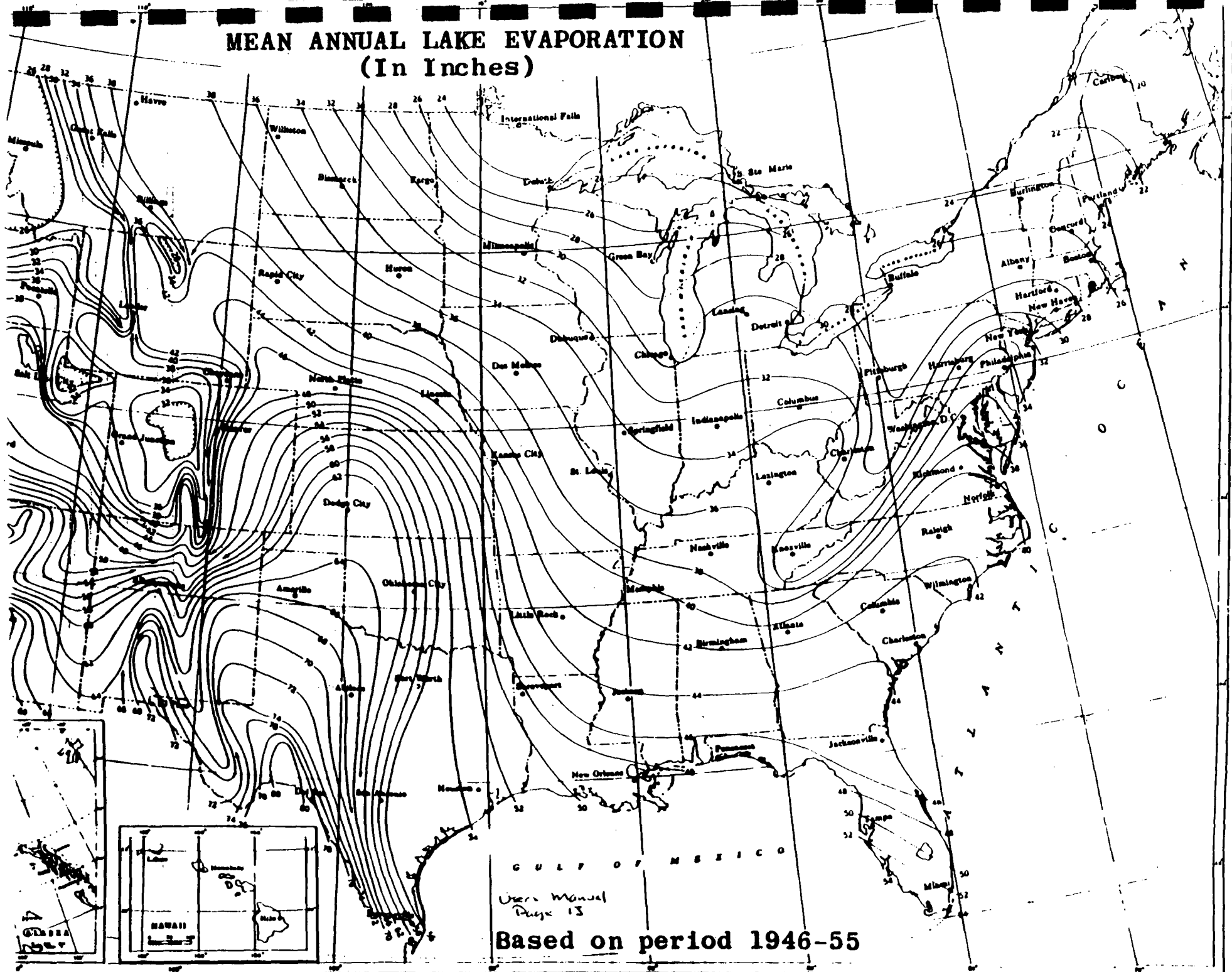
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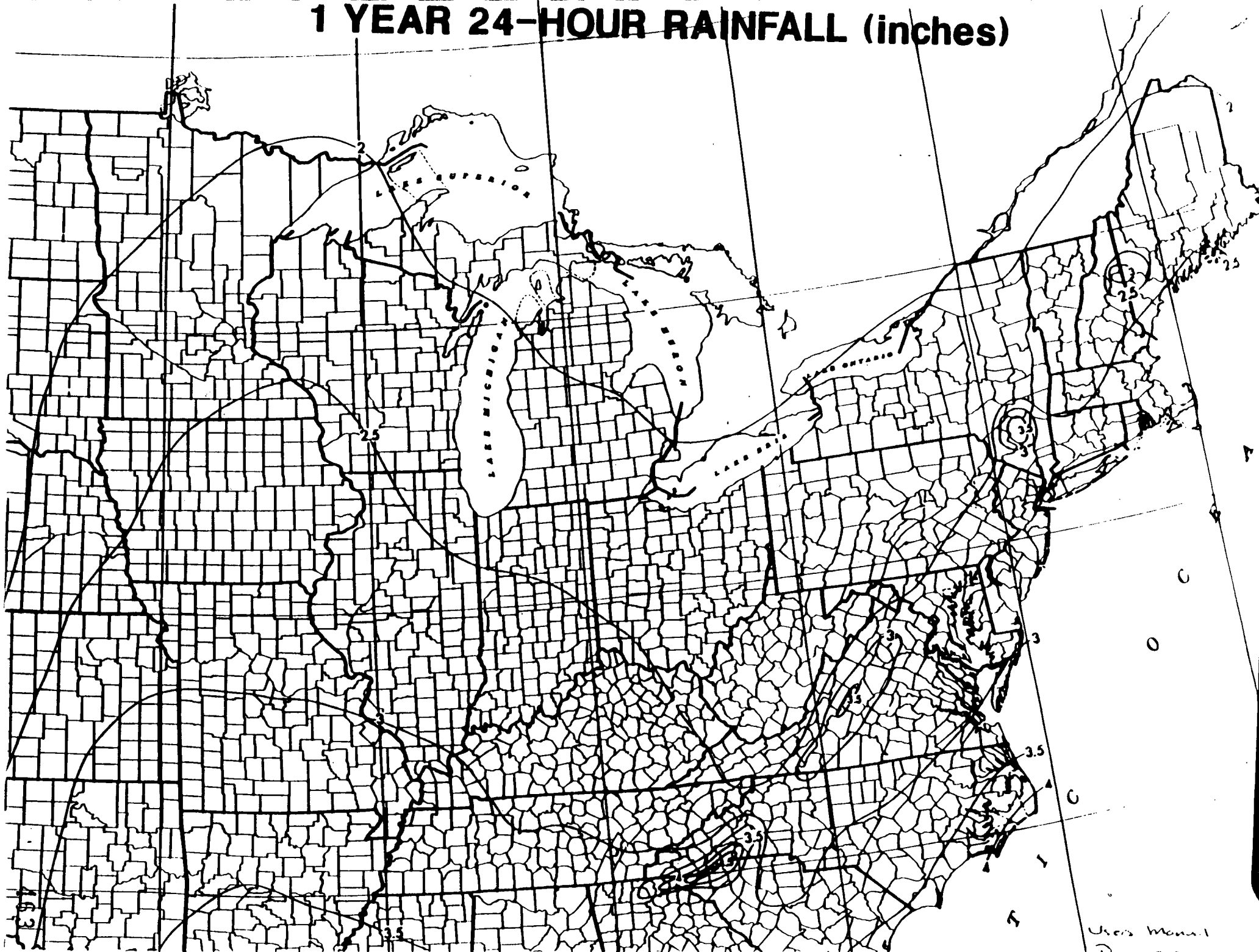
# NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



## MEAN ANNUAL LAKE EVAPORATION (In Inches)



## 1 YEAR 24-HOUR RAINFALL (inches)



**REFERENCE NO. 35**

> I

D. AND J. TRUCKING

LATITUDE 40:43:25 LONGITUDE 74: 7:46 1980 POPULATION

							SECTOR
KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	TOTALS
S 1	0	2	7229	42888	146730	225086	421935
RING	0	2	7229	42888	146730	225086	421935
TOTALS							

GEMS> I

D. AND J. TRUCKING

LATITUDE 40:43:25 LONGITUDE 74: 7:46 1980 HOUSING

							SECTOR
KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	TOTALS
S 1	0	2	2367	14731	52303	79142	148545
RING	0	2	2367	14731	52303	79142	148545
TOTALS							

	1/4-mile radius	1/2-mile radius	1-mile radius	2-mile radius	3-mile radius	4-mile radius
Population	0	2	7,231	30,119	196,849	421,935
Housing	0	2	2,369	17,100	69,403	148,545

**REFERENCE NO. 36**



**REFERENCE NO. 37**

U.S. EPA SUPERFUND PROGRAM

\*\* CERCLIS \*\*

LIST-4: SITE ALIAS LOCATION LISTING

REPORT OPTIONS: EXTERNAL REPORT  
LEVEL: REGION 02  
SELECTION: INTEGRATED  
SEQUENCE: REG, ST, SITE NAME, ALIAS SEQ NO.

LEVEL: REGION 02  
SELECTION: INTEGRATED  
SEQUENCE: REG, ST, SITE NAME

U.S. EPA SUPERFUND PROGRAM

\*\* C E R C L I S \*\*

PAGE: 58  
RUN DATE: 06/07/90  
RUN TIME: 09:56:34

LIST-4: SITE ALIAS LOCATION LISTING

VERSION: 1

REGION: 02

EPA ID	SITE/ALIAS NAME STREET CITY COUNTY NAME	STATE COUNTY	ZIP CODE	ALIAS SEQ. #	NAME SOURCE	FED FAC
NJD002013522 (CONTINUED)	CURTISS-WRIGHT CORPORATION MIDDLESEX	NJ		01		
NJD093846301	CUSTOM CHEMICALS COMPANY 30 PAUL KOHNER PLACE ELMWOOD BERGEN	NJ 003	07407			D
	CUSTOM CHEMICALS COMPANY BERGEN	NJ		01		
NJD000632240	CYLINDER MAINTENANCE CORP 590 BELLEVILLE TPK KEARNY HUDSON	NJ 017	07032		EPA	N
	CHI			01		
	CYLINDER MAINTENANCE CORP HUDSON	NJ		02		
NJD980528970	D & J DISPOSAL AVE A & POINIER NEWARK ESSEX	NJ 013	07114		STS	N
	D & J TRUCKING AVE A NEWARK	NJ	07101	01		
NJD980528962	D & J TRUCKING 310-328 AVE P NEWARK ESSEX	NJ 013	07105		STS	N
NJD980770523	D.O.T. SITE BRIELLE PL WALL TWP MONMOUTH	NJ 025	07719		EPA	N

**REFERENCE NO. 38**

U.S. EPA SUPERFUND PROGRAM

\*\* CERCLIS \*\*

LIST-8: SITE/EVENT LISTING

REPORT OPTIONS: EXTERNAL REPORT  
LEVEL: REG 02  
SELECTION:  
SEQUENCE: REGION, STATE, SITE NAME  
EVENTS: ALL

LEVEL: RE. 02 0 )  
 SELECTION:  
 SEQUENCE: REGION, STATE, SITE NAME  
 EVENTS: ALL

U.S. EPA SUPERFUND PROGRAM

\*\* C E R C L I S \*\*

LIST-8: SITE/EVENT LISTING

PAGE: 50  
 RUN DATE: 06/07/90  
 RUN TIME: 09:42:40

VERSION: 1

EPA ID NO.	SITE NAME STREET CITY COUNTY CODE AND NAME	STATE ZIP CONG DIST.	WFA. FLAG	OPRBLE UNIT	EVENT TYPE	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD002013522	CURTISS-WRIGHT CORPORATION ONE PASSAIC STREET WOOD RIDGE 003 BERGEN	NJ 07075		00	DS1 PA1		06/06/89 07/30/89	EPA (FUND) EPA (FUND)
NJD093846301	CUSTOM CHEMICALS COMPANY 30 PAUL KOHNER PLACE ELMWOOD 003 BERGEN	NJ 07407		00	DS1		10/01/89	EPA (FUND)
NJD000632240	CYLINDER MAINTENANCE CORP 590 BELLEVILLE TPK KEARNY 017 HUDSON	NJ 07032		00	DS1 PA1		11/15/85 12/15/85	STATE(FUND) STATE(FUND)
NJD980528970	D & J DISPOSAL AVE A & POINTIER NEWARK 013 ESSEX	NJ 07114		00	DS1 PA1 SI1	12/01/79	10/01/79 03/01/83 12/01/79	EPA (FUND) EPA (FUND) EPA (FUND)
→ NJD980528962	D & J TRUCKING 310-328 AVE P NEWARK 013 ESSEX	NJ 07105		00	DS1 PA1		05/01/81 03/01/83	EPA (FUND) EPA (FUND)
NJD980770523	D.O.T. SITE BRIELLE PL WALL TWP 025 MONMOUTH	NJ 07719	NFA	00	DS1 PA1	07/29/87	04/10/84 08/18/87	STATE(FUND) STATE(FUND)
NJD980529416	D'IMPERIO PROPERTY RTE 322 HAMILTON TWP 001 ATLANTIC	NJ 08330		00	DS1 PA1 HR1 NP1 NF1 SI1 SI2 IM1	12/01/79 12/01/79 09/30/82	01/01/81 08/01/81 12/01/82 10/01/81 09/01/83 08/01/82 08/01/82 03/27/85	EPA (FUND) EPA (FUND) EPA (FUND) EPA (FUND) EPA (FUND) EPA (FUND) STATE(FUND) EPA (FUND)

**REFERENCE NO. 39**





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT

REGION 2 SITE NUMBER (to be assigned by HQ)

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME D.J. TRUCKING, INC - AVENUE A Site B. STREET (or other identifier) AVENUE A AND LANDEPOOL STREET  
C. CITY NEWARK D. STATE N.J. E. ZIP CODE 07114 F. COUNTY NAME ESSEX

G. SITE OPERATOR INFORMATION  
1. NAME INACTIVE NOW DURING OPERATION - D+J TRUCKING, INC. 2. TELEPHONE NUMBER 201-589-8757  
3. STREET AVENUE A AND PIONEER STREET 4. CITY NEWARK 5. STATE N.J. 6. ZIP CODE 07114

H. REALTY OWNER INFORMATION (if different from operator of site)  
1. NAME DURING OPERATION - UNITED TOWING SERVICE 2. TELEPHONE NUMBER 201-622-1030  
3. CITY 57 SUBSEX AVENUE NEWARK 4. STATE N.J. 5. ZIP CODE 07102

I. SITE DESCRIPTION APPROXIMATELY .75 MILES LONG X 150 FEET WIDE. OPEN DUMP WITH SOME VEGETATION COVER. MAINLY CONSTRUCTION TYPE WASTES.

J. TYPE OF OWNERSHIP  
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☒ 4. MUNICIPAL ☐ 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.) B. APPARENT SERIOUSNESS OF PROBLEM  
☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME KENNETH GIGLIELLO 2. TELEPHONE NUMBER 201-321-6693 3. DATE (mo., day, & yr.) 12-5-79

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION  
1. NAME KENNETH GIGLIELLO 2. TITLE PHYSICAL SCIENTIST  
3. ORGANIZATION S&M BRANCH, SOURCE MONITORING SECTION 4. TELEPHONE NO. (area code & no.) 201-321-6693

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
KENNETH GIGLIELLO	S&M BRANCH, SOURCE MONITORING SECTION	201-321-6693
STEVE HALE	"	201-321-6696

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
NONE		

## III. INSPECTION INFORMATION (continued)

## D. GENERATOR INFORMATION (source of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
UNKNOWN			

## E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
UNKNOWN			

## F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
N/A		

## G. DATE OF INSPECTION

12-5-79

## H. TIME OF INSPECTION

9:00 A.M.

## I. ACCESS GAINED BY: (credentials must be shown in all cases)

☐ 1. PERMISSION☐ 2. WARRANT

ABANDONED SITE

## J. WEATHER (describe)

DURING HEAVY RAIN, SURFACE RUNOFF MAY BE A PROBLEM.

## IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER		NO SAMPLES TAKEN	
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify)			

## FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
RADIOACTIVITY	ENTIRE SITE	NONE DETECTED
EXPLOSIIVITY	ENTIRE SITE	NONE DETECTED

## IV. SAMPLING INFORMATION (continued)

## C. PHOTOS

## 1. TYPE OF PHOTOS

☒ a. GROUND    ☐ b. AERIAL

## 2. PHOTOS IN CUSTODY OF:

KENNETH GIGLIELLO

## D. SITE MAPPED?

☐ YES. SPECIFY LOCATION OF MAPS:

## E. COORDINATES

## 1. LATITUDE (deg.-min.-sec.)

42° 26' 50"

## 2. LONGITUDE (deg.-min.-sec.)

74° 10' 30"

## V. SITE INFORMATION

## A. SITE STATUS

☐ 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

☒ 2. INACTIVE (Those sites which no longer receive wastes.)

☒ 3. OTHER (specify): POSSIBLE  
 (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

## B. IS GENERATOR ON SITE?

☒ 1. NO    ☐ 2. YES (specify generator's four-digit SIC Code):

## C. AREA OF SITE (in acres)

3-4

## D. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO    ☐ 2. YES (specify):

## VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		
	N/A		N/A		N/A		N/A

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this form.

- ☐ 1. STORAGE    ☐ 2. INCINERATION    ☐ 3. LANDFILL    ☐ 4. SURFACE IMPOUNDMENT    ☐ 5. DEEP WELL  
☐ 6. CHEM/BIO/PHYS TREATMENT    ☐ 7. LANDFARM    ☒ 8. OPEN DUMP    ☐ 9. TRANSPORTER    ☐ 10. RECYCLOR/RECLAIMER

## VII. WASTE RELATED INFORMATION

## A. WASTE TYPE

☐ 1. LIQUID    ☒ 2. SOLID    ☐ 3. SLUDGE    ☐ 4. GAS

## B. WASTE CHARACTERISTICS

UNKNOWN

☐ 1. CORROSIVE    ☐ 2. IGNITABLE    ☐ 3. RADIOACTIVE    ☐ 4. HIGHLY VOLATILE  
☐ 5. TOXIC    ☐ 6. REACTIVE    ☐ 7. INERT    ☐ 8. FLAMMABLE

☒ 9. OTHER (specify): UNKNOWN

## C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No

## WASTE RELATED INFORMATION (continue)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE		b. OIL		c. SOLVENTS		d. CHEMICALS		e. SOLIDS		f. OTHER	
AMOUNT	UNIT OF MEASURE	AMOUNT	UNIT OF MEASURE	AMOUNT	UNIT OF MEASURE	AMOUNT	UNIT OF MEASURE	AMOUNT	UNIT OF MEASURE	AMOUNT	UNIT OF MEASURE
(1) PAINT, PIGMENTS		(1) OILY WASTES		(1) HALOGENATED SOLVENTS		(1) ACIDS		(1) FLYASH		(1) LABORATORY, PHARMACEUT.	
(2) METALS SLUDGES		(2) OTHER(specify):		(2) NON-HALOGNTD. SOLVENTS		(2) PICKLING LIQUORS		(2) ASBESTOS		(2) HOSPITAL	
(3) POTW				(3) OTHER(specify):		(3) CAUSTICS		(3) MILLING/MINE TAILINGS		(3) RADIOACTIVE	
(4) ALUMINUM SLUDGE						(4) PESTICIDES	X	(4) FERROUS SMELTING WASTES	X	(4) MUNICIPAL	
(5) OTHER(specify):						(5) DYES/INKS		(5) NON-FERROUS SMLTG. WASTES		(5) OTHER(specify):	
						(6) CYANIDE		(6) OTHER(specify):		MAINLY REFUSE CONTAINING BRICKS, CEMENT WOOD, CLOTH PAPER, PLASTIC TIRES, METAL SHAVINGS RAILROAD TIES	
						(7) PHENOLS					
						(8) HALOGENS					
						(9) PCB					
						(10) METALS					
						(11) OTHER(specify):					

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X')			3. TOXICITY (mark 'X')				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
UNKNOWN										

## VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

## III. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE☐ C. WORKER INJURY/EXPOSURE☐ D. CONTAMINATION OF WATER SUPPLY☐ E. CONTAMINATION OF FOOD CHAIN☒ F. CONTAMINATION OF GROUND WATER

SURFACE OF LANDFILL SITE IS NOT ADEQUATELY COVERED TO PREVENT RAINWATER PENETRATING THE REFUSE TO PRODUCE A CONTAMINATED LEACHATE.

☒ G. CONTAMINATION OF SURFACE WATER

SURFACE OF LANDFILL SITE IS NOT ADEQUATELY COVERED TO PREVENT RAIN WATER COMING INTO CONTACT WITH REFUSE AND CONTAMINATING SURFACE RUNOFF.

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☒ K. NOTICEABLE ODORS

ODORS WERE PRESENT AT THE SITE.  
(UNKNOWN)

☐ L. CONTAMINATION OF SOIL

☐ M. PROPERTY DAMAGE

☒ N. FIRE OR EXPLOSION

ONE AREA OF ~~THE~~ SITE HAD STEAM EMANATING FROM GROUND APPROXIMATELY 75°F WITH NO ODOR.

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID☒ P. SEWER, STORM DRAIN PROBLEMS

CULVERTS IN CENTER OF SITE PERMIT FLOW OF RAW SEWAGE BETWEEN RAILROAD TRACKS ON EITHER BOUNDARY OF SITE. SPOKE TO MIKE ROSEN BURG OF NJ DEP ON THIS MATTER. NO INFORMATION ON ILLEGAL DISCHARGE OF RAW SEWAGE.

☐ Q. EROSION PROBLEMS☒ R. INADEQUATE SECURITY

NO SECURITY AT SITE. SITE ACCESSIBLE TO CHILDREN IN AREA AND TRUCKS POSSIBLY HAULING WASTES TO THE SITE.

☐ S. INCOMPATIBLE WASTES



## VIII. HAZARD DESCRIPTION (continued)

☒ T. MIDNIGHT DUMPING

POSSIBLE OCCURENCES

☒ U. OTHER (specify):

1. AREA OF SITE WAS DRY EXCEPT FOR CULVERTS IN CENTER OF LANDFILL.
2. NO LEACHATE STREAMS WERE DETECTED AT THE SITE.
3. SCATTERED EMPTY DRUMS WERE LOCATED ON THE SITE. APPROXIMATELY 15 SUCH DRUMS WERE OBSERVED.

## IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	UNKNOWN			500 YARDS
2. IN COMMERCIAL OR INDUSTRIAL AREAS	MAIN POPULATION	AFFECTED	20	100 YARDS
3. IN PUBLICLY TRAVELLED AREAS	NONE			
4. PUBLIC USE AREAS (parks, schools, etc.)	<del>4</del> 4 SCHOOLS			1 MILE

## X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit) 4 Feet (DEP REPORT)	B. DIRECTION OF FLOW UNKNOWN	C. GROUNDWATER USE IN VICINITY NONE
D. POTENTIAL YIELD OF AQUIFER N/A	E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure) N/A	F. DIRECTION TO DRINKING WATER SUPPLY N/A
G. TYPE OF DRINKING WATER SUPPLY		
<input type="checkbox"/> 1. NON-COMMUNITY < 15 CONNECTIONS	<input type="checkbox"/> 2. COMMUNITY (specify town): N/A	
<input type="checkbox"/> 3. SURFACE WATER	<input type="checkbox"/> 4. WELL	

## X. WATER AND HYDROLOGICAL DATA (continued)

## H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COM- MUNITY (mark 'X')	5. COMMUN- ITY (mark 'X')
		N/A		

## I. RECEIVING WATER

1. NAME

☐ 2. SEWERS☐ 3. STREAMS/RIVERS☐ 4. LAKES/RESERVOIRS☐ 5. OTHER (specify):

## 6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

## XI. SOIL AND VEGETATION DATA

## LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE☐ B. KARST ZONE☐ C. 100 YEAR FLOOD PLAIN☒ D. WETLAND☐ E. A REGULATED FLOODWAY☐ F. CRITICAL HABITAT☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

## XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

A. C. VERBURDEN	B. BEDROCK (specify below)	C. OTHER (specify below)
1. SAND	UNKNOWN	
2. CLAY		
3. GRAVEL		

## XIII. SOIL PERMEABILITY

☒ A. UNKNOWN☐ B. VERY HIGH (100,000 to 1000 cm/sec.)☐ C. HIGH (1000 to 10 cm/sec.)☐ D. MODERATE (10 to .1 cm/sec.)☐ E. LOW (.1 to .001 cm/sec.)☐ F. VERY LOW (.001 to .00001 cm/sec.)

## G. RECHARGE AREA

☐ 1. YES☐ 2. NO

3. COMMENTS:

## H. DISCHARGE AREA

☐ 1. YES☐ 2. NO

3. COMMENTS:

## I. SLOPE

1. ESTIMATE % OF SLOPE

45%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.

SIDE IN POOR CONDITION - REFUSE EXPOSED

## J. OTHER GEOLOGICAL DATA

## XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X')		
					1. YES	2. NO	3. UN- KNOWN
NEW JERSEY CERTIFICATE OF REGISTRATION FOR NJDEP		07561309	6-12-72	6-30-73			X
SOLID WASTE DISPOSAL # 07561309							

## XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE    ☐ YES (summarize in this space)

NJ DEP 11/14/74 OBSERVATION OF FIRES  
 12/1/77 OBSERVATION OF DRUMS  
 2/16/78 <sup>7/8/77</sup> → DEP ISSUED A DECEASE ORDER  
 TO FORCE CLOSING OF UNLICENSED  
 DUMP  
 → SITE ABANDONED  
 COMPANY WENT OUT OF BUSINESS.

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition (Section II) information on the first page of this form.

**REFERENCE NO. 40**

TO: File

DATE: September 17, 1990

FROM: Dorothy M. Ponte

COPIES:

SUBJECT: Possible sources of contamination at the D. and J. Trucking

REFERENCE: site obtained from aerial photographs.

Five aerial photographs were obtained from Robinson Aerial Surveys spanning the years 1966 to 1989. A 1978 aerial photograph of the D. and J. Trucking site reveals what appears to be approximately 30 drums or large paint containers scattered in the center, and toward the rear of the property. Some of these drums/paint containers appear to be partially buried near the drainage ditch by the southern corner of the property.

NUS PHOTO I.D.

SITE NAME: D. and J. Trucking  
LOCATION: Newark, Essex County, New Jersey  
TDD #: 02-9005-05  
DATE: 3/29/66 SCALE: 1" = 2400 feet  
SOURCE: Robinson Aerial Surveys  
Sparta, New Jersey



SITE NAME: D and J Trucking  
LOCATION: Newark, Essex County, New Jersey  
TDD #: 02-9005-05  
DATE: 5/30/70 SCALE: 1" = 800 feet  
SOURCE: Robinson Aerial Surveys  
Sparta, New Jersey



NUS PHOTO I.D.

SITE NAME: D. and J. Trucking  
LOCATION: Newark, Essex County, New Jersey  
TDD #: 02-9005-05  
DATE: 4/09/78 SCALE: 1"=500 feet  
SOURCE: Robinson Aerial Surveys  
Spacta, New Jersey





NUS PHOTO I.D.

SITE NAME: D. and J. Trucking  
LOCATION: Newark, Essex County, New Jersey  
TDD #: 02-9005-05  
DATE: 9/04/89 SCALE: 1" = 200 feet  
SOURCE: Robinson Aerial Surveys  
Sparta, New Jersey



NUS PHOTO I.D.

SITE NAME: D. and J. Trucking  
LOCATION: Newark, Essex County, New Jersey  
TDD #: 02-9005-05  
DATE: 10/23/82 SCALE: 1" = 1500 feet  
SOURCE: Robinson Aerial Surveys  
Sparta, New Jersey



**REFERENCE NO. 41**



POTENTIAL HAZARDOUS WASTE SITE

PRELIMINARY ASSESSMENT

D & J Trucking	NJ D 9805 28962
Site Name	EPA Site ID Number
310-328 Avenue P	03-8303-126
Address	TDD Number

Newark, NJ

Date of Site Visit: None

SITE DESCRIPTION

The site is currently an active junk-scrap yard, located on Avenue P, Newark, NJ.

The EPA in Edison, and the U.S. Coast Guard has had previous interaction in oil and chemical spills from D & J's Avenue P site.

PRIORITY FOR FURTHER ACTION: High      Medium      Low X

RECOMMENDATIONS

No further action recommended. D & J Trucking is currently involved in court litigation with the New Jersey DEP. Richard Katz, NJ DEP Hazardous Site Litigation, informed me to stop my investigation of D & J and to drop from the FIT list on 1/28/83.

Prepared by: Martin J. O'Neill Date: 3/23/83  
of NUS Corporation



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POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
NJ D980528962

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

D & J Trucking

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

310-328 Ave P

03 CITY

Newark

04 STATE

05 ZIP CODE

06 COUNTY

07 COUNTY CODE

08 CONG DIST

NJ

07105

013

10

09 COORDINATES

LATITUDE

LONGITUDE

40° 43' 30" N

74° 07' 38" W

10 DIRECTIONS TO SITE (Starting from nearest public road)

Travel north on McCarter Highway, Route 21, to South Street. Make a right onto South St. and travel east to Delancey. Bear right onto Delancey Street to Ave P. Make a left onto Ave P and travel approximately 0.5 mile. Site is on right.

III. RESPONSIBLE PARTIES

01 OWNER (if known)

Unknown

02 STREET (Business, mailing, residential)

03 CITY

04 STATE

05 ZIP CODE

06 TELEPHONE NUMBER

( )

07 OPERATOR (if known and different from owner)

D & J Trucking and Waste Co.

08 STREET (Business, mailing, residential)

387 Avenue P

09 CITY

Newark

10 STATE

11 ZIP CODE

12 TELEPHONE NUMBER

( ) unknown

13 TYPE OF OWNERSHIP (Check one)

unknown

☐ A. PRIVATE ☐ B. FEDERAL:

(Agency name)

☐ C. STATE

☐ D. COUNTY

☐ E. MUNICIPAL

☐ F. OTHER:

(Specify)

☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: MONTH DAY YEAR

☐ B. UNCONTROLLED WASTE SITE (CERCLA 103(c)) DATE RECEIVED: MONTH DAY YEAR

☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☐ YES

DATE

MONTH DAY YEAR

☒ NO

BY (Check all that apply)

☐ A. EPA

☐ B. EPA CONTRACTOR

☐ C. STATE

☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL

☐ F. OTHER:

(Specify)

CONTRACTOR NAME(S):

02 SITE STATUS (Check one)

☐ A. ACTIVE

☐ B. INACTIVE

☒ C. UNKNOWN

03 YEARS OF OPERATION

BEGINNING YEAR

ENDING YEAR

☒ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Unknown-According to a letter to Mr. Dominick Attanasi, owner of D & J Trucking and Waste Co., from Beatrice S. Tylutki, Director of NJ SWA, dated 2/14/78, D & J engaged in illegal disposal of solid wastes on 310 Ave P

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

In April, and August of 1977. In addition, Mr. Attanasi and Ralph Smith, truck driver for D & J Trucking and Waste Co., were arrested by Newark police on December 15, 1977 for illegal disposal of chemical wastes on 310 Avenue P. EPA, Edison and U.S. Coast Guard have been involved in cleaning up chemical and oil spills at

V. PRIORITY ASSESSMENT

the Avenue P property.

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH

(Inspection required promptly)

☐ B. MEDIUM

(Inspection required)

☐ C. LOW

(Inspect on time available basis)

☒ D. NONE

(No further action needed. Complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT

Richard Katz

02 OF (Agency, Organization)

NJ DEP, Dept. of Hazardous Site Litigation

03 TELEPHONE NUMBER

609)292-1207

04 PERSON RESPONSIBLE FOR ASSESSMENT

Martin O'Neill

05 AGENCY

EPA

06 ORGANIZATION

FIT II

07 TELEPHONE NUMBER

201 225-6160

08 DATE

3/22/83  
MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
NJ D980528962

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown. EPA, Edison and U.S. Coast Guard have been involved in chemical and oil spill cleanup from D & J's Avenue P property prior to 1979.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown. EPA, Edison, and U.S. Coast Guard have been involved in chemical and oil spill cleanup from D & J's Avenue P property prior to 1979.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ (Acres) 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION

Unknown



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
NJ D980528962

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (Include names of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
(Soils/runoff/standing liquids/leaking drums)  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

Unknown

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

Unknown

III. TOTAL POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

IV. COMMENTS

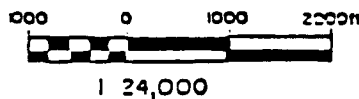
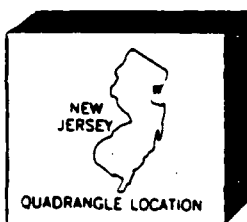
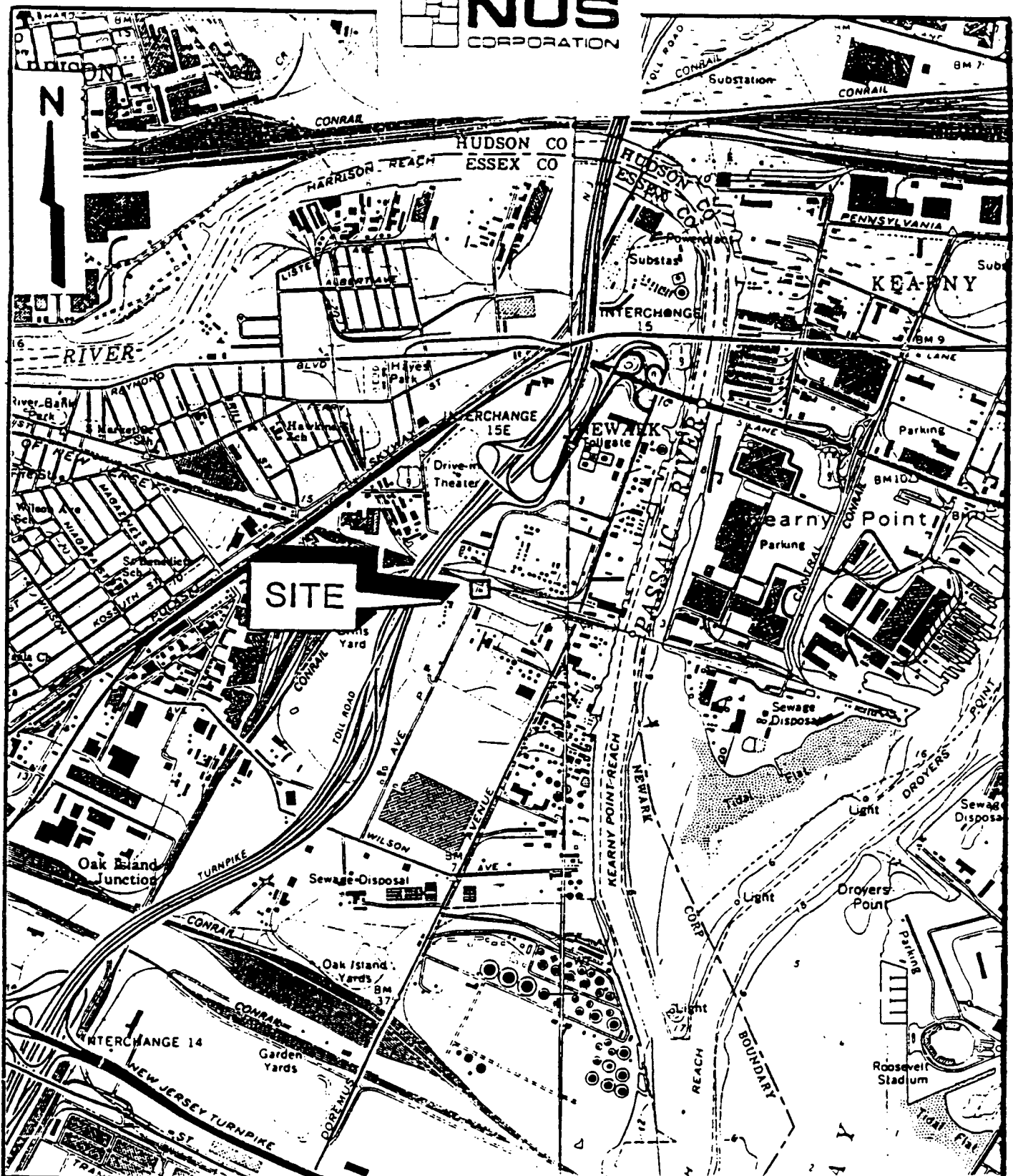
D & J Trucking and Waste Co. have had repeated problems with their sites at 310-328 Ave. P and Ave. A & Pioneer St., Newark, NJ. 310-328 Ave. P is referred to as simply Ave. P in EPA and DEP files. Upon beginning background search into D & J, Richard Katz of NJ DEP Hazardous Site Litigation, informed me to

V. SOURCES OF INFORMATION (See specific references, e.g., state logs, sample analysis, reports)

EPA, Surveillance and Monitoring Branch, Region II Files, Edison, NJ  
Telephone conversation with Richard Katz, NJ DEP Hazardous Site

drop D & J from FIT files because D & J is involved in litigation with NJ DEP.



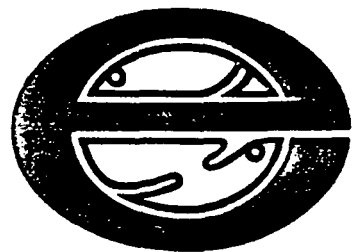


**FIGURE 1**

**D & J DISPOSAL**  
**310-328 AVENUE P**  
**NEWARK, N.J.**

**SITE LOCATION MAP**

**REFERENCE NO. 42**



HYDROGEOLOGIC ASSESSMENT

CENTRAL STEEL DRUM COMPANY

704 DOREMUS AVENUE

NEWARK, N.J. 07105

**environics incorporated/environmental consultants**

46 JACKSON DRIVE • CRANFORD, NJ 07016-3580 • (201) 272-3775

## 1. INTRODUCTION

As a part of an environmental investigation conducted for Central Steel Drum Company by Environics, water levels in the monitor wells installed on that property were recorded on three occasions (May 18 and 31, and November 19, 1984). The levels measured in May were included in a report dated June 1, 1984, in which test boring and monitor well installation operations were described. The data from November were included in a report dated February 6, 1985, which was a report of sampling operations and a transmittal of analytical data from groundwater samples.

A well location and elevation survey was conducted by B2R Consultants on March 1, 1985. A copy of this survey (see figure 1) was received by Environics on March 25, 1985. Receipt of the survey data has made possible completion of the Hydrogeologic Assessment presented in this report.

Table 1 is a summary of elevation data for inner and outer well casings, and groundwater on the three dates of measurement. Depth to water information is not available for wells 103 and 203 for May 18. Well 103 was destroyed prior to the November sampling and subsequent survey. The surveyor measured the elevation of the broken casing (8.11 feet). From this elevation, a value of 8.01 was calculated for the water elevation of May 31. This number must, however, be used with caution.

## 2. SUMMARY OF SITE HYDROGEOLOGY

In this report, the term "aquifer" will be used to describe the geologic units monitored by the wells installed on-site. Neither the shallow water table aquifer nor the deeper confined aquifer would be capable of exploitation for a water supply. Even without deterioration of water quality resulting from the industrial nature of the area, the proximity to salt water and the poor pumping characteristics encountered in both aquifers would make them unusable as a water supply.

The shallow water table aquifer varies in thickness between 4 feet at the southwestern corner (wells 101 & 201), to 12 feet at the southeastern corner (wells 104 & 204). The soil consists of re-worked (fill) sand, gravel, silt and clay.

The base of the water table system is a silty clay confining layer. The geometry of the confining layer is shown on figure 2 in the form of contours on the upper and lower surfaces. The upper surface of this confining unit appears to slope "radially" from a high point at the southwestern corner. The observed slope (approximately 2%) apparently exerts little or no influence on flow in the overlying shallow aquifer system.

The confining layer is thickest (13 to 14 feet) along a northwest to southwest trending line between wells 103/203

Water elevation data for the shallow aquifer at the Central Steel Drum Site for May 18, May 31 and November 19, 1984 are presented on figures 3,4 and 5 respectively.

Data from both occasions in May show a nearly static groundwater condition. The maximum difference in water elevations between the shallow wells on the May 18 measurement is less than 0.5 feet. There is a slight apparent slope to the southwest. However, considering the insignificant variation in the elevation of the water table surface, measured in wells which are hundreds of feet apart, virtually no certainty can be placed on that direction.

Results are similar for May 31, except that the water table is approximately 1 foot higher. As seen in table 1 and figure 4, the uncertain value for well 103 is consistent with the other 3 wells, suggesting a southwesterly flow direction. However, as with data from the previous occasion, no definite interpretation can be made.

Measurements from the 3 wells available on November 19, 1984 (figure 5) suggest a gradient to the north. The maximum difference in water elevation on that date is slightly more than 1 foot. For a water table system, with wells spaced hundreds of feet apart, such a difference in elevation is insignificant.

and 101/201. The layer thins to approximately 8 feet at the northwest and southeast corners of the property. The lower surface of the confining layer slopes eastward as shown on figure 2 at slightly less than 2%. Available evidence suggests that this layer is continuous throughout the property.

The confined aquifer consists of silty sand and sandy silt. Thickness of the system was not determined.

### 3. FLOW IN THE SHALLOW SYSTEM

Groundwater in the shallow aquifer exists under water table conditions. In such a system, hydrostatic pressure at the top of the saturated zone is atmospheric. Flow direction is controlled by the hydraulic gradient, which is equal to the slope on the water table surface.

The determination of hydraulic gradient in a water table aquifer can be very complex due to the number of factors which may exert control, such as surface topography, surface water bodies, and variations in the permeability of the ground surface. In an area such as the site in question, the distribution of buildings and pavement, variation in the permeability of fill material, and even differential compaction, as might be induced by heavy vehicle traffic may all have an effect.





TABLE 1

## WELL AND GROUNDWATER ELEVATION DATA

WELL NUMBER	WELL ELEVATION		WATER ELEVATION		
	OUTER CASING	INNER CASING	5/18/84	5/31/84	11/19/84
101	10.91	10.78	6.19	7.30	6.39
102	8.49	8.36	6.47	7.88	5.50
103	DESTROYED (8.11)*		-	(8.01)	-
104	9.32	9.07	6.55	7.49	6.57
201	8.48	8.33	1.33	1.98	2.33
202	10.14	9.89	0.44	1.01	1.50
203	10.96	8.74	-	2.80	3.06
204	8.23	7.98	2.35	2.93	3.05

\* ( ) INDICATES QUESTIONABLE VALUE

NOTES:  
 HORIZONTAL DATUM PER  
 N.J. GEODETIC CONTROL  
 SURVEY MONUMENTS  
 NO. 641 AND NO. 9679.  
 VERTICAL DATUM IS NGVD  
 PER CGS MONUMENT  
 NO. Z-37. PUBLISHED  
 ELEVATION 10.072'.  
 PROPERTY LINES SHOWN  
 ARE APPROXIMATE AND  
 ARE BASED ON TAX MAP  
 DATA; DEEDS PROVIDED  
 BY CLIENT.

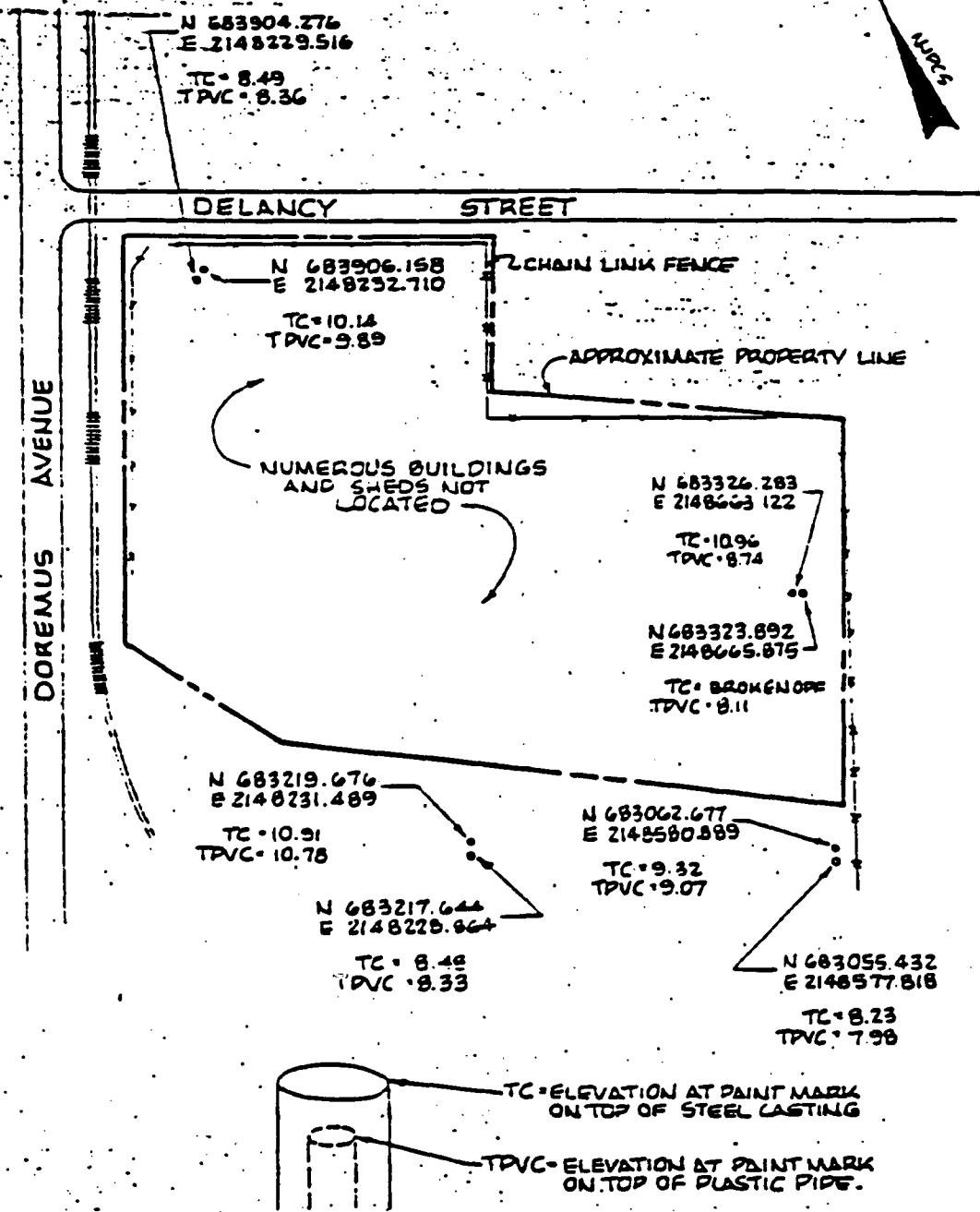


FIGURE NO. 1

SKETCH SHOWING  
 LOCATION OF WELLS

LOT 1, BLK 5074

CITY OF NEWARK  
 COUNTY OF ESSEX

NEW JERSEY

*Bruce R. Blair* DATE ISSUED 3/14/85

BRUCE R. BLAIR

B<sub>2</sub>A Consultants

323 RT. 208  
 HILLSBOROUGH, NJ 08578

506

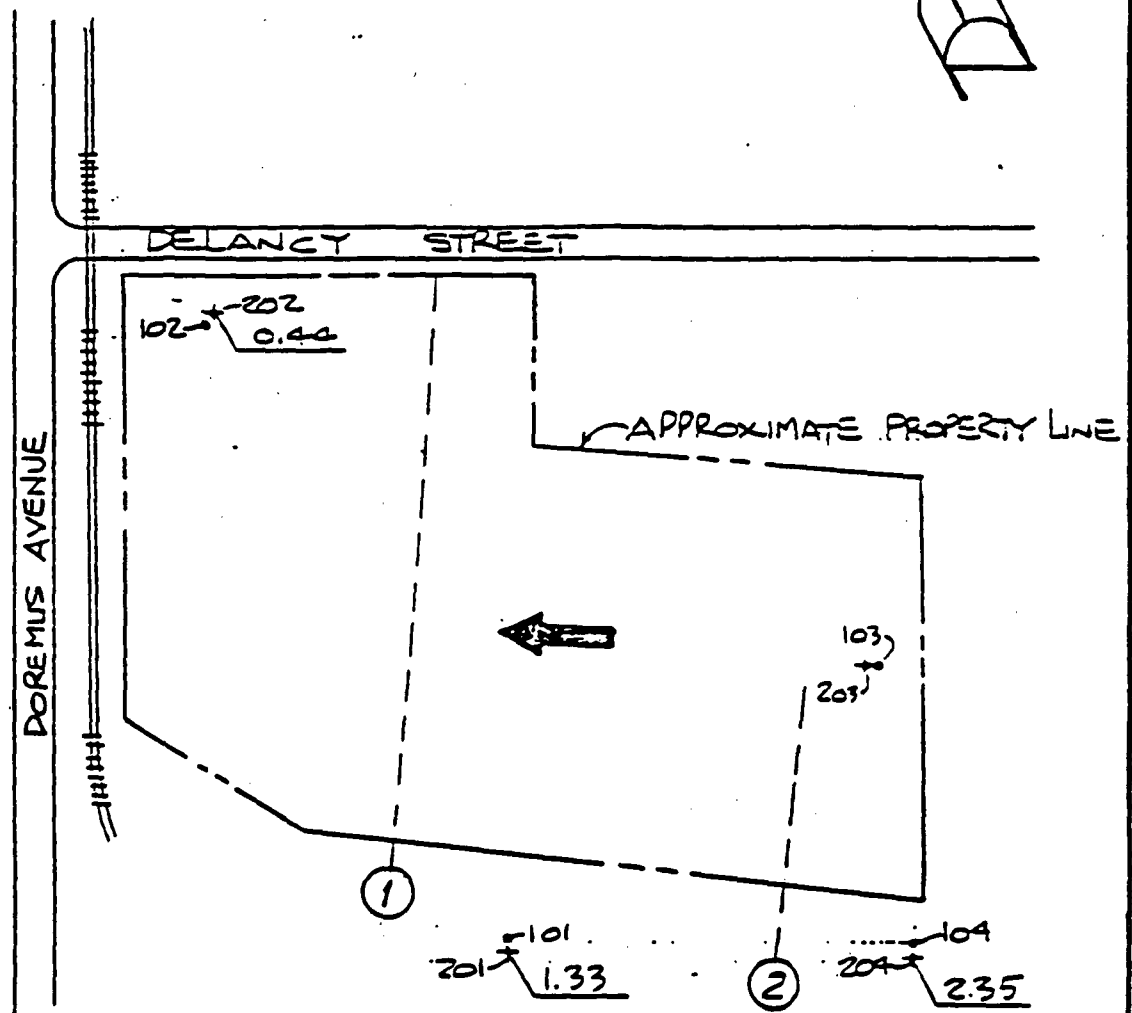
REPLICATION IS A VIOLATION OF THE COPYRIGHT LAW

DATE	3-1-85
SCALE	1" = 200'
NO.	1
DATE	123 22-26
DATE	DLB 8-28
DATE	64-293 21

#### 4 FLOW IN THE DEEP SYSTEM

The deep aquifer system at the site is a confined or semi-confined system. Such a system is saturated throughout, and hydrostatic pressure at the top of the aquifer is greater than atmospheric. Consequently, when tapped by a well, water will rise above the bottom of the confining layer, to a level which represents a point on an imaginary plane known as the "potentiometric surface". Flow direction is determined by the hydraulic gradient, which is equal to the slope of the potentiometric surface.

Contours on the potentiometric surface for the 3 sets of water elevation data are shown on figures 6, 7 and 8. Examination of these figures shows a virtually identical pattern on the three sets of measurements. In each case, the hydraulic gradient slopes in a direction slightly north of west, at a slope of 1 foot vertical to 400 feet horizontal, or 0.0025. Since there are no data available on the thickness or permeability of the confined aquifer, it is not possible to estimate the rate of flow in that system. It may be stated with certainty, however, that there is flow in the direction indicated on the figures.



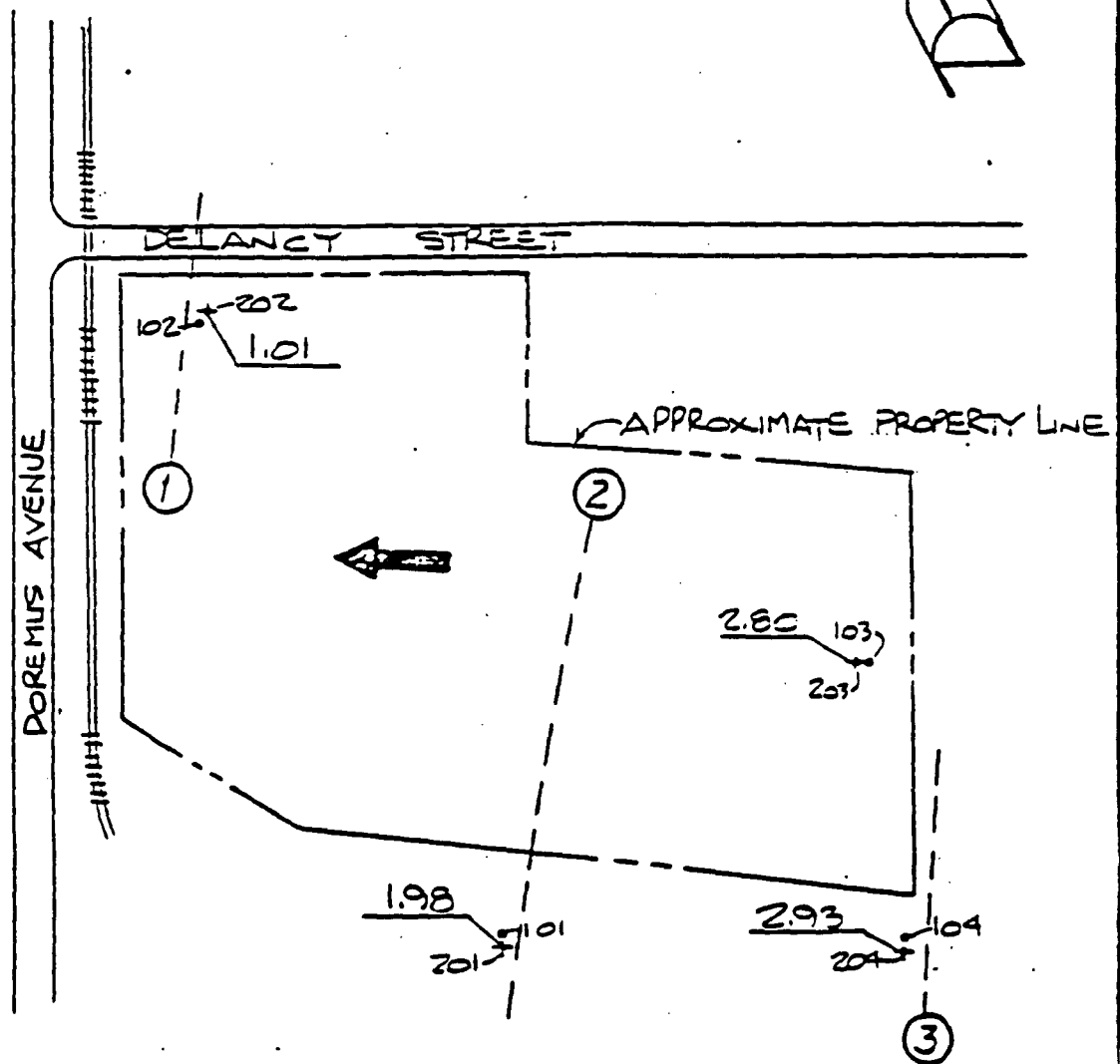
# EXPLANATION

- ← DOWN GRADIENT DIRECTION
- ① - - - - - CONTOUR ON POTENTIOMETRIC SURFACE

- DENOTES WELL SCREENED IN WATER TABLE AQUIFER
- + DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

<b>ENVIRONICS, INC.</b> ENVIRONMENTAL CONSULTANTS 48 JACKSON DRIVE      CRANFORD, N.J. 07016		
DRAWING TITLE	DRAWING NO.	REV.
POTENTIOMETRIC SURFACE 5/18/84	6 508 0	



## EXPLANATION

← DOWN GRADIENT DIRECTION

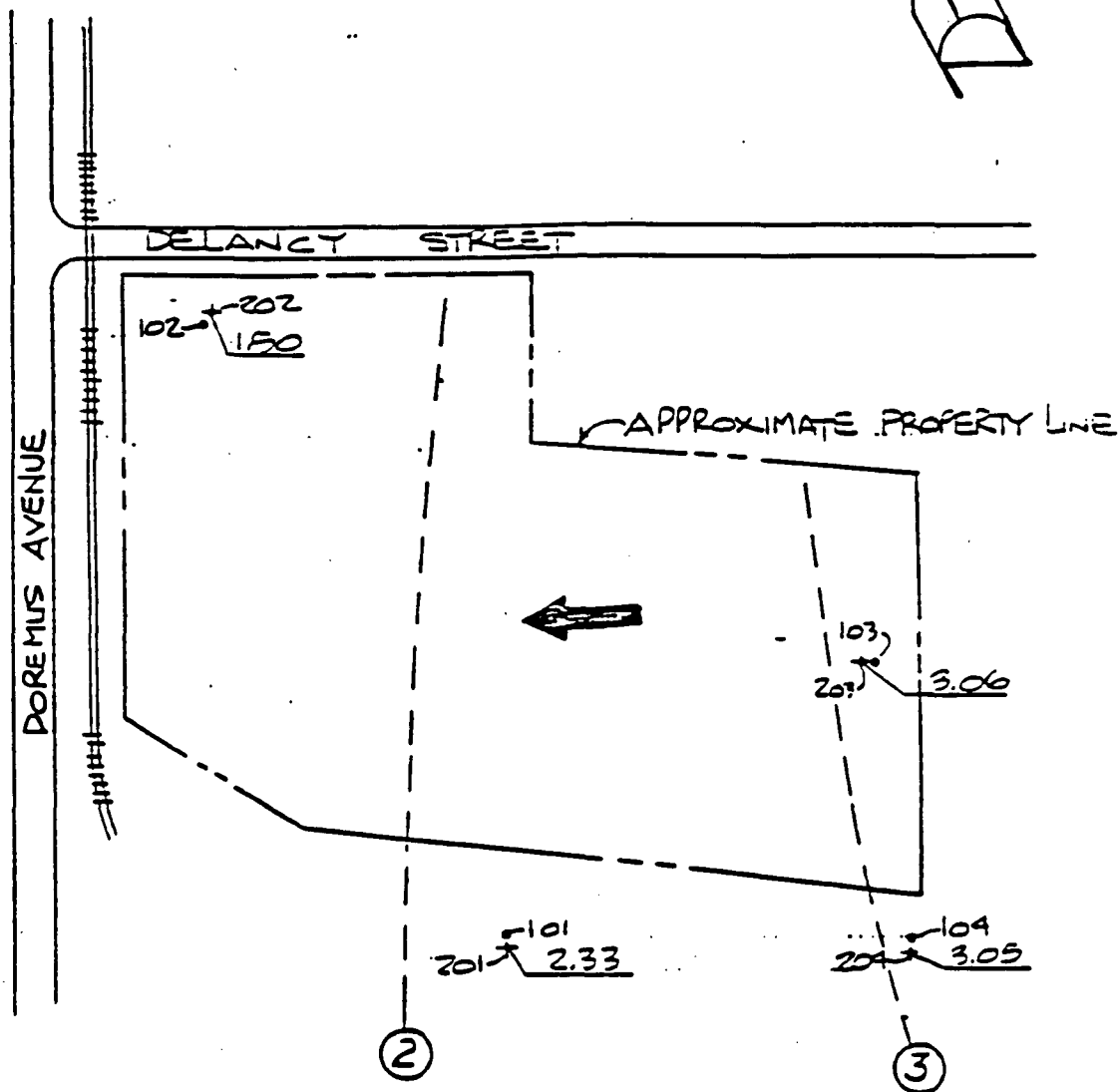
① CONTOUR ON POTENTIOMETRIC SURFACE

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

<b>ENVIRONICS, INC.</b> ENVIRONMENTAL CONSULTANTS 46 JACKSON DRIVE CRANFORD, N.J. 07016		
DRAWING TITLE <b>POTENTIOMETRIC SURFACE 5/31/84</b>	DRAWING NO. <b>7 5090</b>	REV. 



## EXPLANATION

DOWN GRADIENT DIRECTION

② --- CONTOUR ON POTENTIOMETRIC SURFACE

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

<b>ENVIRONICS, INC.</b> ENVIRONMENTAL CONSULTANTS 48 JACKSON DRIVE      CRANFORD, N.J. 07016		
DRAWING TITLE	DRAWING NO.	REV.
POTENTIOMETRIC SURFACE 11/19/84	8 5100	

## 5. INTER-SYSTEM FLOW POTENTIAL

The discussion in Sections 3 and 4 has been confined to the horizontal component of groundwater flow in each of the aquifer systems investigated. This Section will center on flow through the confining layer, in a vertical direction.

A nested pair of wells was installed at each drilling site. A nested pair of wells consists of two wells installed at the same location, screened either at different depths within one aquifer, or as in this case, in separate aquifers. The difference in water elevations in the wells of each pair indicates the vertical hydraulic gradient.

Since well 103 was destroyed, only 3 of the 4 pairs remain. However, in those pairs the data have been consistent for each measurement. These data are presented in table 2. In each case, the vertical hydraulic gradient has been downward at a magnitude between approximately 4 and 7 feet. The downward force of this elevation difference operates over the thickness of the confining layer, which as described in Section 2, varies between 8 and 14 feet. From these data, the downward gradient across the confining layer beneath the site may be calculated. This gradient varies between 0.21 and 0.875.

A reasonable estimate of the rate of downward flow through the confining layer may be calculated by using

TABLE 2  
VERTICAL GRADIENT DATA

WELL PAIR	DATE		
	5/13/84	5/31/84	11/19/84
101	6.19	7.30	6.39
201	1.33 (4.86)	1.98 (5.32)	2.33 (4.06)
102	6.47	7.88	5.50
202	0.44 (6.03)	1.01 (6.87)	1.50 (4.00)
103	DESTROYED		
203	-	-	-
104	6.55	7.49	6.57
204	2.35 (4.20)	2.93 (4.56)	3.05 (3.52)



Darcy's Law, and estimating the permeability of the confining layer. Darcy's Law states that groundwater flow is proportional to the permeability, the hydraulic gradient and the cross-sectional area. Based on the lithologic description of the silty clay encountered during the drilling operations, the permeability of the confining layer is estimated to vary between  $10^{-6}$  and  $10^{-8}$  centimeters per second. The cross-sectional area of the site is approximately 9 acres. Total flow through the confining layer, from the shallow aquifer to the deep aquifer, in units of gallons per day, is calculated therefore, to vary between lower and upper limits of approximately 20 and 7000 respectively.

#### 6. SUMMARY AND CONCLUSIONS

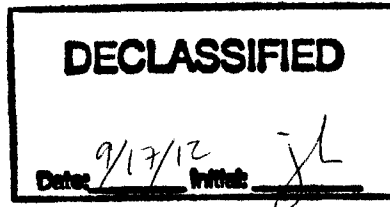
Two aquifer systems were investigated at the Central Steel Drum site, a shallow water table system and a deeper confined system. The systems are separated by a silty clay confining unit, which varies in thickness between 8 and 14 feet over the 9 acre site.

Neither the water table or the confined aquifer has the potential for exploitation as a water source.

Virtually no horizontal flow could be detected in the water table system. Flow in the confined system, at an

undetermined rate, was found to be in a northwesterly direction.

Vertical flow across the confining layer is downward. The rate of downward flow across the entire site varies between limits of 20 and 7000 gallons per day.



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**SITE SUMMARY AND RECOMMENDATION**

The D and J Trucking site (CERCLIS ID No. NJD0980528962) (hereinafter, D&J) is located in the heavily industrialized "iron bound" section of Newark, Essex County, New Jersey (Ref. Nos. 15; 18). The currently active 3.5-acre site is located at 310-336 Avenue P and is commonly confused with several other sites in the area known by similar names. The abandoned Newark Police Academy lot borders the site to the north and is separated from the site by a row of ten foot high berms and a chain-link fence. The site is bounded to the south by a tidally influenced drainage ditch, a railroad right-of-way, and a chain-link fence, to the east by an unknown chemical factory, and to the west by Avenue P. Linde Chemical formerly occupied the neighboring property to the south (Ref. No. 6). Available background information indicates that the site has been used for the disposal of various industrial waste streams during its history.

The site was owned/occupied by American Cyanamid Co. from 1916 to 1943. American Cyanamid sold the property to Martin Laboratories, Inc. in 1943. Martin Laboratories occupied the site until 1950. Union Carbide Corp. occupied the site from an unknown date until Sun Chemical Co. purchased the site in 1960. Background information indicates that a dye/chemical manufacturing facility may have stored wastes, product, and/or raw materials in underground storage tanks on site during an unknown time period. No recent evidence exists confirming the presence or removal of these purported tanks or their contents. In 1974, the site was purchased from Sun Chemical Corp. by D and J Trucking (Ref. No. 7). The site was purchased by its current owner, the Newark Housing Authority (NHA), in 1978. To date, NHA has primarily leased the site to auto salvage companies. The site is currently leased to Advanced Enterprises Recycling, Inc. (AERI). AFA Pallet Co., a division of AERI, is presently using the site for the storage of wood mulch (Ref. No. 6).

D & J operated a waste disposal company which had long term contracts with several industries in the area to dispose of their industrial wastes. Waste streams handled by D&J reportedly consisted mainly of those associated with paint manufacturing. D&J claims to have used the site as a waste transfer station; however, according to the New Jersey Department of Environmental Protection and Energy (NJDEPE), D&J allegedly used the property as an illegal industrial landfill (Ref. No. 19, pp. 303-315, 368-371, 477). On 15 December 1977 Newark police witnessed and subsequently arrested two D&J employees for illegally dumping liquid chemical wastes from several 55-gallon drums into what was described as a pit on site. The police also observed tire tracks leading to the adjacent drainage ditch and noted visible contamination from apparent dumping in the water body (Ref. Nos. 13, 14). Samples from the pit obtained by



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**SITE SUMMARY AND RECOMMENDATION (CONTINUED)**

Passaic Valley Sewerage Commissioners were analyzed for unknown parameters. The waste was found to be of a flammable nature; however, it is believed that the chemical composition was never determined (Ref. Nos. 2; 19, p. 356). As a result of D&J's activities, their license to handle waste was revoked (Ref. No. 19, p. 362). Due to the nature of disposal practices used by D&J, discrete waste source areas and quantities are not clearly defined; however, according to available surface soil analysis data, much of the 3.5-acre site is contaminated.

Fourteen environmental samples were collected from on-site soils, surface water, and sediment by the United States Environmental Protection Agency (U.S. EPA) Region 2 Field Investigation Team (NUS Corporation) as part of a June 1990 Site Inspection. Samples were analyzed for Target Compound List organic and inorganic analysis through the U.S. EPA Contract Laboratory Program (CLP). Refer to Table 1 for a list of the highest concentrations detected. Surface water and sediment samples were collected from the adjacent tidally-influenced drainage ditch. Three surface water samples and two sediment samples were collected at two separate locations in the adjacent drainage ditch. These samples contained several volatile organic compounds, semivolatile organic compounds, herbicides/pesticides, and metals. Due to the locations of the samples, attribution of surface water and sediment contamination to the site remains questionable. Despite this fact, contaminants detected in surface water and sediment samples are consistent with those found in on-site soil samples. Nine surface soil samples were collected from areas along the drainage ditch, the berm, and near Avenue P. Volatile organic compounds, polynuclear aromatic hydrocarbons, numerous herbicides and pesticides, polychlorinated biphenyls, and metals were detected in on-site soil and sediment samples. Soil samples referred to as "background" indicated the highest concentrations of some contaminants; other samples proved to be more representative of background conditions (Ref. No. 19, pp. 8-16, 51). This would appear to be an error in the selection of background locations.

Approximately two-thirds of the site is currently covered by piles of mulch approximately twenty feet high and the remainder is covered with approximately 1-3 feet of mulch. During an off-site reconnaissance performed by Roy F. Weston, Inc., (WESTON®) on 23 November 1993, trucks were observed to be dumping mulch on the D&J site, which appeared to be surrounded by a maintained fence (Ref.No.6).

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**SITE SUMMARY AND RECOMMENDATION (CONTINUED)**

A recommendation of **SITE EVALUATION ACCOMPLISHED (SEA)** is hereby given for the D&J Trucking site. The absence of groundwater targets resulted in a relatively low score for that pathway. The low surface water pathway score is due mainly to the proximity of the probable point of entry to the coastal tidal waters combined with a low assigned dilution factor. The surface soil pathway score is low due to absence of residences, schools and day care centers within 200 feet of the site as well as low nearby populations. The absence of an observed release to air and of nearby target populations resulted in a low air migration pathway score.

# SITE INSPECTION WORKSHEETS

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CERCLIS IDENTIFICATION NUMBER

NJD980528962

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE Dard J. Trucking,			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER 310-336 Avenue P			
CITY Newark	STATE NJ	ZIP CODE	TELEPHONE ( )
COORDINATES: LATITUDE and LONGITUDE 40°43'25°N / 74°07'46"W		TOWNSHIP, RANGE, AND SECTION	

OWNER/OPERATOR IDENTIFICATION					
OWNER Housing Authority of the City of Newark			OPERATOR AFA Pallet Co.		
OWNER ADDRESS 57 Sussex Ave			OPERATOR ADDRESS 514 Doremus Ave		
CITY Newark			CITY Newark		
STATE NJ	ZIP CODE 07103	TELEPHONE (201) 589-8336	STATE NJ	ZIP CODE 07105	TELEPHONE (201) 589-8336

SITE EVALUATION		
AGENCY/ORGANIZATION USEPA		
INVESTIGATOR Roy F. Weston		
CONTACT Keith Bobrowski		
ADDRESS Raritan Plaza 1, 4th Floor		
CITY Edison	STATE NJ	ZIP CODE 08837
TELEPHONE (908) 225-3990		

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**GENERAL INFORMATION (continued)**

**Site Sketch:** Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.

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GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

Sources consist of misc. illegal dumping activities.

All of the 3.5<sup>acre</sup> site indicates soil contamination with highest concentrations along the northern boundary.

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

$$3.5 \text{ acres} \div 0.078 = 44.87$$

$$1 \text{ drum} \times \frac{55 \text{ gal}}{\text{drum}} \times \frac{10 \text{ lbs}}{\text{gal}} \times \frac{1}{5000} = 0.11$$

$$\text{HWQ} = 44.98$$

Attach additional pages, if necessary

HWQ =

10



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**TABLE 1 (CONTINUED)**

Single Source Sites (assigned HWQ scores)		Multiple Source Sites	(Column 2) Source Type	(Column 1) TIER
(Column 5) HWQ = 10,000	(Column 6) HWQ = 1,000,000	(Column 7) Divisors for Assigning Source WQ Values		
>10,000 to 1 million lbs	> 1 million lbs	lbs + 1	N/A	<b>A</b> Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs + 5,000	N/A	<b>B</b> Hazardous Wastestream Quantity
>675 million to 67.5 billion ft <sup>3</sup> >25 million to 2.5 billion yd <sup>3</sup>	> 67.5 billion ft <sup>3</sup> > 2.5 billion yd <sup>3</sup>	ft <sup>3</sup> + 67,500 yd <sup>3</sup> + 2,500	Landfill	<b>C</b> Volume
>675,000 to 67.5 million ft <sup>3</sup> >25,000 to 2.5 million yd <sup>3</sup>	> 67.5 million ft <sup>3</sup> > 2.5 million yd <sup>3</sup>	ft <sup>3</sup> + 67.5 yd <sup>3</sup> + 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums + 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons + 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft <sup>3</sup> >25 million to 2.5 billion yd <sup>3</sup>	> 67.5 billion ft <sup>3</sup> > 2.5 billion yd <sup>3</sup>	ft <sup>3</sup> + 67,500 yd <sup>3</sup> + 2,500	Contaminated Soil	
>675,000 to 67.5 million ft <sup>3</sup> >25,000 to 2.5 million yd <sup>3</sup>	> 67.5 million ft <sup>3</sup> > 2.5 million yd <sup>3</sup>	ft <sup>3</sup> + 67.5 yd <sup>3</sup> + 2.5	Pile	
>675,000 to 67.5 million ft <sup>3</sup> >25,000 to 2.5 million yd <sup>3</sup>	> 67.5 million ft <sup>3</sup> > 2.5 million yd <sup>3</sup>	ft <sup>3</sup> + 67.5 yd <sup>3</sup> + 2.5	Other	
>34 million to 3.4 billion ft <sup>2</sup> >780 to 78,000 acres	> 3.4 billion ft <sup>2</sup> >78,000 acres	ft <sup>2</sup> + 3,400 acres + 0.078	Landfill	<b>D</b> Area
>130,000 to 13 million ft <sup>2</sup> >2.9 to 290 acres	> 13 million ft <sup>2</sup> > 290 acres	ft <sup>2</sup> + 13 acres + 0.00029	Surface Impoundment	
> 340 million to 34 billion ft <sup>2</sup> > 7,800 to 780,000 acres	> 34 billion ft <sup>2</sup> > 780,000 acres	ft <sup>2</sup> + 34,000 acres + 0.78	Contaminated Soil	
> 130,000 to 13 million ft <sup>2</sup> > 2.9 to 290 acres	> 13 million ft <sup>2</sup> > 290 acres	ft <sup>2</sup> + 13 acres + 0.00029	Pile	
>2.7 million to 270 million ft <sup>2</sup> >62 to 6,200 acres	> 270 million ft <sup>2</sup> > 6,200 acres	ft <sup>2</sup> + 270 acres + 0.0062	Land Treatment	

# SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: D&J Trucking

References \_\_\_\_\_

## Sources:

- Contaminated Soil
- 
- 

- 
- 
- 

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S O U R C E	SUBSTANCE	GROUNDWATER		SURFACE WATER PATHWAY										GROUNDWATER TO SURFACE WATER				AIR PATHWAY	
				OVERLAND/FLOOD MIGRATION															
		TOXICITY	GROUNDWATER MOBILITY	TOXICITY/ MOBILITY	PERSISTENCE	TOXICITY/ PERSISTENCE	BIO-ACCUM. POTENTIAL	ECOBIO- ACCUM. POTENTIAL	TOXICITY/ PERSIST/ BIO-ACCUM	ECOTOXICITY	PERSISTENCE	ACCUMULATION	TOXICITY/ MOBILITY/ PERSIST.	TOXICITY/ MOBILITY/ PERSIST/ BIO-ACCUM	ECOTOXICITY/ MOBILITY/ PERSIST.	ECOBIO-ACCUM.	AIR MOBILITY	AIR TOXICITY/ MOBILITY	
1	ACETONE	10	1	10	0.4	4	0.5	0.5	2	100	40	20	4	2	40	20	1	10	
1	BENZENE	100	1	100	0.4	40	5000	50000	200000	10000	4000	200000000	40	200000	4000	200000000	1	100	
1	CARBON DISULFIDE	1000	0.01	10	0.4	400	50	50	20000	100	40	2000	4	200	0.4	20	1	1000	
1	CHLOROBENZENE	100	0.01	1	0.0007	0.07	50	50	3.5	1000	0.7	35	0.0007	0.035	0.007	0.35	1	100	
1	CHLORDANE	10000	0.0004	1	1	10000	50000	50000	5.0E+08	10000	10000	500000000	4	200000	4	200000	0.002	20	
1	ETHYLBENZENE	10	0.01	0.1	0.4	4	50	50	200	100	40	2000	0.04	2	0.4	20	1	10	
1	TOLUENE	10	0.01	0.1	0.4	4	50	50	200	100	40	2000	0.04	2	0.4	20	1	10	
1	XYLENES	10	0.01	0.1	0.4	4	500	500	2000	100	40	20000	0.04	20	0.4	200	1	10	
1	BENZO(K)FLOURANTHENE	0	0.0001	0	1	0	50000	50000	0	0	0	0	0	0	0	0	0.0002	0	
1	BENZO(APYRENE	10000	0.0001	1	1	10000	50000	50000	5.0E+08	10000	10000	500000000	1	50000	1	50000	0.0002	2	
1	CHRYSENE	0	0.0001	0	1	0	500	5000	0	1000	1000	5000000	0	0	0.1	500	0.0002	0	
1	1,2-DICHLOROBENZENE	10	0.01	0.1	0.4	4	50	50	200	100	40	2000	0.04	2	0.4	20	1	10	
1	BIS(2-ETHYLHEXYL)PHTHALATE	100	0.0001	0.01	1	100	500	50000	50000	1000	1000	500000000	0.01	5	0.1	5000	0.002	0.2	
1	NAPHTHALENE	100	0.01	1	0.4	40	500	5000	20000	1000	400	2000000	0.4	200	4	20000	0.2	20	
1	PHENANTHRENE	0	0.0001	0	0.4	0	50	5000	0	1000	400	2000000	0	0	0.04	200	0.02	0	
1	PYRENE	100	0.0001	0.01	1	100	50	50	5000	0	0	0	0.01	0.5	0	0	0.002	0.2	
1	4,4'-DDD	100	0.0001	0.01	1	100	50000	50000	50000000	10000	10000	500000000	0.01	500	1	50000	0.002	0.2	
1	4,4'-DDE	100	0.0001	0.01	1	100	50000	50000	50000000	10000	10000	500000000	0.01	500	1	50000	0.002	0.2	
1	4,4'-DDT	1000	0.0001	0.1	1	1000	50000	50000	50000000	10000	10000	500000000	0.1	5000	1	50000	0.002	2	
1	ENDOSULFAN SULFATE	100	0.01	1	1	100	50	50	5000	0	0	0	1	50	0	0	1	100	
1	ENDOSULFAN II	10000	0.01	100	1	10000	5000	5000	50000000	10000	10000	50000000	100	500000	100	500000	0.002	20	
1	HEPTACHLOR	1000	0.01	10	1	1000	5000	50000	5000000	10000	10000	500000000	10	50000	100	5000000	0.02	20	
1	CHROMIUM	10000	0.01	100	1	10000	500	500	5000000	10000	10000	5000000	100	50000	100	50000	0.0002	2	
1	LEAD	10000	0.01	100	1	10000	5000	5000	50000000	1000	1000	5000000	100	500000	10	50000	0.0002	2	
1	MERCURY	10000	1	10000	1	10000	50000	50000	5.0E+08	10000	10000	500000000	10000	500000000	10000	500000000	0.2	2000	
1	ZINC	10	0.01	0.1	1	10	50000	50000	500000	100	100	5000000	0.1	5000	1	50000	0.0002	0.002	
1	TETRACHLOROETHYLENE	100	0.01	1	0.4	40	50	50	2000	100	40	2000	0.4	20	0.4	20	1	100	
1	ENDRIN	10000	1	10000	1	10000	5000	50000	50000000	10000	10000	500000000	10000	500000000	10000	500000000	0.002	20	
1	POLYCHLORINATED BIPHENYLS	10000	0.0001	1	1	10000	50000	50000	5.0E+08	10000	10000	500000000	1	50000	1	50000	1	10000	
-	HIGHEST VALUES	10000	1	10000	1	10000	50000	50000	5.0E+08	10000	10000	5.0E+08	10000	5.0E+08	10000	5.0E+08	1	10000	

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**SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)**

[illegible]

**SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS**

**Well ID:** \_\_\_\_\_ **Level I** \_\_\_\_\_ **Level II** \_\_\_\_\_ **Population Served** \_\_\_\_\_ **References** \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent	N/A	Sum of Percents		Sum of Percents	

Well ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

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## GROUND WATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.			
2. POTENTIAL TO RELEASE: Depth to aquifer: <u>50</u> feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.	500		
LR =		500	

### TARGETS

<p>Are any wells part of a blended system?    Yes <u>    </u> No <u>X</u></p> <p>If yes, attach a page to show apportionment calculations.</p>			
<p>3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5).</p> <p>Level I:    <u>    X    </u> people x 10 = <u>    X    </u></p> <p>Level II:   <u>    X    </u> people x 1 = <u>    X    </u>                      Total =</p>	0		
<p>4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.</p>	0		
<p>5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.</p>	0		
<p>6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.</p>	0		
<p>7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Irrigation (5 acre minimum) of commercial food crops or commercial forage crops</li> <li>• Watering of commercial livestock</li> <li>• Ingredient in commercial food preparation</li> <li>• Supply for commercial aquaculture</li> <li>• Supply for a major or designated water recreation area, excluding drinking water use</li> </ul>	0		
Sum of Targets    T=		0	

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**SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)**

**SI Table 6b: Karst Aquifers**

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Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
$> \frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
$> \frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 1$ to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 2$ to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 3$ to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		

Nearest Well =

Sum =

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**SURFACE WATER PATHWAY  
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET**

LIKELIHOOD OF RELEASE- OVERLAND/FLOOD MIGRATION	Score	Data Type	Refs												
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.															
2. POTENTIAL TO RELEASE: Distance to surface water: <u>0</u> (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency. <table border="1" data-bbox="200 627 936 819"><tr><td>Distance to surface water &lt;2500 feet</td><td>500</td></tr><tr><td>Distance to surface water &gt;2500 feet, and:</td><td></td></tr><tr><td>Site in annual or 10-yr floodplain</td><td>500</td></tr><tr><td>Site in 100-yr floodplain</td><td>400</td></tr><tr><td>Site in 500-yr floodplain</td><td>300</td></tr><tr><td>Site outside 500-yr floodplain</td><td>100</td></tr></table> Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2	Distance to surface water <2500 feet	500	Distance to surface water >2500 feet, and:		Site in annual or 10-yr floodplain	500	Site in 100-yr floodplain	400	Site in 500-yr floodplain	300	Site outside 500-yr floodplain	100	500		
Distance to surface water <2500 feet	500														
Distance to surface water >2500 feet, and:															
Site in annual or 10-yr floodplain	500														
Site in 100-yr floodplain	400														
Site in 500-yr floodplain	300														
Site outside 500-yr floodplain	100														
LR =	500														

LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.  NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:  1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0. 2) No aquifer discontinuity is established between the source and the above portion of the surface water body. 3) The top of the uppermost aquifer is at or above the bottom of the surface water. Elevation of top of uppermost aquifer _____ Elevation of bottom of surface water body _____			
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.			
LR =	500		

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SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Population	Nearest Intake	Number of People							Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	
Small to Moderate Stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	
Moderate to Large Stream (100 to 1000 cfs)		0	0	0.04	0.2	0.5	2	5	16	
Large Stream to River (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	
Large River (>10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	
Shallow Ocean Zone or Great Lake (depth <20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	
Moderate Ocean Zone or Great Lake (depth 20-200 ft)		0	0	0	0	0.001	0.002	0.005	0.02	
Deep Ocean Zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.006	
3-mile mixing zone in quiet flowing river (> or = 10 cfs)		10	0	2	9	26	82	261	817	

Type of Surface Water Body	Population	Nearest Intake	Number of People							Pop. Value
			3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 to 10,000,000	
Minimal Stream (<10 cfs)		20	5,214	16,325	52,137	163,246	521,360	1,632,455	5,213,590	
Small to Moderate Stream (10-100 cfs)		2	521	1,633	5,214	16,325	52,136	163,245	521,359	
Moderate to Large Stream (100 to 1000 cfs)		0	52	163	521	1,633	5,214	16,325	52,136	
Large Stream to River (>1,000 to 10,000 cfs)		0	5	16	52	163	521	1,632	5,214	
Large River (>10,000 to 100,000 cfs)		0	0.5	2	5	16	52	163	521	
Very Large River (>100,000 cfs)		0	0.05	0.2	0.5	2	5	16	52	
Shallow Ocean Zone or Great Lake (depth <20 feet)		0	0.5	2	5	16	52	163	521	
Moderate Ocean Zone or Great Lake (depth 20-200 ft)		0	0.05	0.2	0.5	2	5	16	52	
Deep Ocean Zone or Great Lake (depth > 200 feet)		0	0.03	0.08	0.3	1	3	8	26	
3-mile mixing zone in quiet flowing river (> or = 10 cfs)		10	2,607	8,163	26,068	81,623	260,680	816,227	2,606,795	
Nearest Intake =										Sum =

References

**SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED**

Fishery ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration	% of Cancer Risk Concentration	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

**SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED**

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

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SI  
TABLE  
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## SURFACE WATER PATHWAY (continued) HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs										
<p>Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Fishery Name <u>Newark</u> Water Body <u>Newark</u> Flow <u>CTW</u> cfs  <u>Bay Complex</u> <u>Bay Complex</u></p> <p>Species _____ Production _____ lbs/yr            Species _____ Production _____ lbs/yr</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Fishery Name <u>Arthur Kill</u> Water Body <u>Arthur Kill</u> Flow <u>CTW</u> cfs</p> <p>Species _____ Production _____ lbs/yr            Species _____ Production _____ lbs/yr</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Fishery Name <u>NY Bay</u> Water Body <u>NY Bay</u> Flow <u>CTW</u> cfs</p> <p>Species _____ Production _____ lbs/yr            Species _____ Production _____ lbs/yr</p> </div>													
<p><b>FOOD CHAIN INDIVIDUAL</b></p> <p><b>7. ACTUAL CONTAMINATION FISHERIES:</b></p> <p>If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.</p> <p><b>8. POTENTIAL CONTAMINATION FISHERIES:</b></p> <p>If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.</p> <p>If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Lowest Flow</th> <th style="text-align: center; padding: 5px;">FCI Value</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">&lt;10 cfs</td> <td style="text-align: center; padding: 5px;">20</td> </tr> <tr> <td style="padding: 5px;">10 to 100 cfs</td> <td style="text-align: center; padding: 5px;">2</td> </tr> <tr> <td style="padding: 5px;">&gt;100 cfs, coastal tidal waters, oceans, or Great Lakes</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">3-mile mixing zone in quiet flowing river</td> <td style="text-align: center; padding: 5px;">10</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 10px;"> <p>FCI Value = <u>0</u></p> </div>				Lowest Flow	FCI Value	<10 cfs	20	10 to 100 cfs	2	>100 cfs, coastal tidal waters, oceans, or Great Lakes	0	3-mile mixing zone in quiet flowing river	10
Lowest Flow	FCI Value												
<10 cfs	20												
10 to 100 cfs	2												
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0												
3-mile mixing zone in quiet flowing river	10												
<b>SUM OF TARGETS T =</b>	<u>0</u>												

**SI TABLE 12 (HRS Table 4–13):  
SURFACE WATER DILUTION WEIGHTS**

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal Stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.0001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.0001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.00001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3–mile mixing zone in quiet flowing river	10 cfs or greater	0.5

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**SURFACE WATER PATHWAY (concluded)**  
**WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY**

**WASTE CHARACTERISTICS**

Score

14. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.

10

15. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.

WC Score (from Table)  
(Maximum of 100)

	Substance Value	HWO	Product
Drinking Water Threat Toxicity/Persistence	10 <sup>4</sup> x	10 -	10 <sup>5</sup>
Food Chain Threat Toxicity/Persistence Bioaccumulation	5x10 <sup>8</sup> x	10 -	5x10 <sup>9</sup>
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	5x10 <sup>8</sup> x	10 -	5x10 <sup>9</sup>

18

180

180

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

**SURFACE WATER PATHWAY THREAT SCORES**

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score <u>LR x T x WC</u> 82,500
Drinking Water	500	0	18	(maximum of 100) 0.00
Human Food Chain	500	0	180	(maximum of 100) 0.00
Environmental	500	0.0005	180	(maximum of 60) 0.00

**SURFACE WATER PATHWAY SCORE**  
 (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(maximum of 100)

0.00

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**SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS**

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

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Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

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SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY  
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

**SI TABLE 17 (HRS TABLE 5-6):  
ATTRACTIVENESS/ACCESSIBILITY VALUES**

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements—for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

**SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES**

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	100

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## SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

### WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure	10																						
11. Assign the highest toxicity value from SI Table 16	10 <sup>4</sup>																						
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: <table border="1" data-bbox="285 697 807 991"> <thead> <tr> <th>Product</th> <th>WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>&gt;0 to &lt;10</td><td>1</td></tr> <tr><td>10 to &lt;100</td><td>2</td></tr> <tr><td>100 to &lt;1,000</td><td>3</td></tr> <tr><td>1,000 to &lt;10,000</td><td>6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td>18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to <10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	WC = 18
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to <10,000	6																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

### RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;  
Targets = Sum of Questions 2, 3, 4, 5, 6)

LE X T X WC  
82,500

0.60

### NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;  
Targets = Sum of Questions 8, 9)

LE X T X WC  
82,500

0.00

### SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

0.60  
(Maximum of 100)

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SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Toxicity/Mobility			Highest Percent		Sum of Percents		Sum of Percents	

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Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Toxicity/Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Toxicity/Mobility			Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Distance from Sources (mi) \_\_\_\_\_ References \_\_\_\_\_

Hazardous Substance	Conc. ( $\mu\text{g}/\text{m}^3$ )	Toxicity/Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Toxicity/Mobility			Highest Percent		Sum of Percents		Sum of Percents	



SI TABLE 22 (From HRS Table 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	
On a source	2	20	(4)	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4
0 to 1/4 mile	2.2	*	(1)	4	13	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	1
> 1/4 to 1/2 mile	7.2	2	(0.2)	0.9	3	9	28	88	282	882	2,815	8,815	28,153	88,153	0.2
> 1/2 to 1 mile	6370.7	1	0.06	0.3	0.9	3	8	26	(83)	261	834	2,612	8,342	26,119	83
> 1 to 2 miles	39389.9	0	0.02	0.09	0.3	0.8	3	8	27	83	(266)	833	2,659	8,326	266
> 2 to 3 miles	153173.4	0	0.009	0.04	0.1	0.4	1	4	12	38	120	(375)	1,199	3,755	375
> 3 to 4 miles	203812.2	0	0.005	0.02	0.07	0.2	0.7	2	7	23	73	(229)	730	2,285	229
Nearest Individual = 20			Sum = 958.2												

#### References

\* Score = 20 if the Nearest Individual is within 1/8 mile of a source; score = 7 if the Nearest Individual is between 1/8 and 1/4 mile of a source.

Updated: January 20, 1993

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# AIR PATHWAY (concluded)

## WASTE CHARACTERISTICS

<p>9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.</p>	<p>10</p>																						
<p>10. Assign the highest air toxicity/mobility value from SI Table 21.</p>	<p>10<sup>4</sup></p>																						
<p>11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:</p> <table border="1" data-bbox="292 703 816 997"> <thead> <tr> <th>Product</th> <th>WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>&gt;0 to &lt;10</td><td>1</td></tr> <tr><td>10 to &lt;100</td><td>2</td></tr> <tr><td>100 to &lt;1,000</td><td>3</td></tr> <tr><td>1,000 to &lt; 10,000</td><td>6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td>18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to < 10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	<p>WC = 18</p>
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to < 10,000	6																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

AIR PATHWAY SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

12.72  
(maximum of 100)